RECORD AND BRIEFS

16 1275

No. _____

Supreme Court, U.S.
FILED
APR 21 2017
OFFICE OF THE CLERK

In The

Supreme Court of the United States

VIRGINIA URANIUM, INC., *et al.*,

Petitioners,

v.

JOHN WARREN, *et al.*,

Respondents.

On Petition For Writ Of Certiorari To The United States Court Of Appeals For The Fourth Circuit

PETITION FOR WRIT OF CERTIORARI

CHARLES J. COOPER
Counsel of Record
MICHAEL W. KIRK
JOHN D. OHLENDORF
COOPER & KIRK, PLLC
1523 New Hampshire Avenue, N.W.
Washington, D.C. 20036
(202) 220-9600
ccooper@cooperkirk.com

Counsel for Petitioners

April 21, 2017

COCKLE LEGAL BRIEFS (800) 225-6964
WWW.COCKLELEGALBRIEFS.COM

Library of Congress
Law Library

QUESTION PRESENTED

This Court has held that the Atomic Energy Act ("AEA") "occupie[s] the entire field of nuclear safety concerns," *Pacific Gas & Elec. Co. v. State Energy Res. Conservation & Dev. Comm'n*, 461 U.S. 190, 212 (1983), and it has "defined the preempted field, in part, by reference to the motivation behind [a challenged] state law," *English v. General Elec. Co.*, 496 U.S. 72, 84 (1990). In accordance with these precedents, the Tenth Circuit has held that "a state cannot use its authority" over activities indisputably subject to State regulation as a pretextual "means of regulating radiological hazards" arising from activities entrusted by the AEA to the Nuclear Regulatory Commission ("NRC"). *Skull Valley Band of Goshute Indians v. Nielson*, 376 F.3d 1247-48 (10th Cir. 2004). *Accord, e.g.*, *Entergy Nuclear Vermont Yankee, LLC v. Shumlin*, 733 F.3d 393, 416 (2d Cir. 2013). In contrast, the divided panel below held that so long as a challenged state law "does not [on its face] purport to regulate an activity within the [AEA]'s reach," courts may *not* "conduct a pretext analysis" to "decipher whether the legislature was motivated" by radiological safety concerns." App.14a, 15a, 18a.

The question presented is:

Does the AEA preempt a state law that on its face regulates an activity within its jurisdiction (here uranium mining), but has the purpose and effect of regulating the radiological safety hazards of activities entrusted to the NRC (here, the milling of uranium and the management of the resulting tailings)?

PARTIES TO THE PROCEEDING

Petitioners Virginia Uranium, Inc., Cole Hill, LLC, Bowen Minerals, LLC, and Virginia Energy Resources, Inc. were the plaintiffs before the District Court and the plaintiffs-appellants in the Court of Appeals.

Respondents John Warren, in his official capacity as Director of the Virginia Department of Mines, Minerals and Energy, Bradley C. Lambert, in his official capacity as Deputy Director of the Virginia Department of Mines, Minerals and Energy, and James P. Skorupa, in his official capacity as Director of the Virginia Department of Mines, Minerals and Energy's Division of Mineral Mining, were defendants before the District Court and defendants-appellees in the Court of Appeals. Conrad Spangler, the former Director of the Virginia Department of Mines, Minerals and Energy, was also initially docketed by the Court of Appeals as an appellee, but the current director, John Warren, was substituted in his place on January 5, 2016, pursuant to FED. R. APP. P. 43(c)(2).

CORPORATE DISCLOSURE STATEMENT

Virginia Uranium, Inc., has as its sole parent corporation Virginia Energy Resources, Inc., located at 675 West Hastings Street, Suite 611, Vancouver, British Columbia, Canada, V5B 1N2. Virginia Energy Resources, Inc., joins in this Petition, and its corporate affiliations are listed below. No other publicly held corporation owns 10% or more of Virginia Uranium, Inc.'s stock.

Coles Hill, LLC, has no parent corporation, and there is no publicly held corporation that owns 10% or more of its stock.

Bowen Minerals, LLC, has no parent corporation, and there is no publicly held corporation that owns 10% or more of its stock.

Virginia Energy Resources, Inc., has no parent corporation. Sprott Resource Corp., located at Royal Bank Plaza, South Tower, 200 Bay Street, Suite 2750, P.O. Box 90, Toronto, Ontario, Canada, M5J 2J2, and Energy Fuels, Inc., located at 2 Toronto Street, Suite 500, Toronto, Ontario, Canada, M5C 2B6, are the sole publicly held corporations that own 10% or more of its stock.

TABLE OF CONTENTS

	Page
TABLE OF AUTHORITIES	x
OPINIONS BELOW	1
JURISDICTION	1
CONSTITUTIONAL PROVISIONS AND STATUTES INVOLVED	1
INTRODUCTION	2
STATEMENT	6
I. Domestic Production and Use of Uranium and the Coles Hill Deposit	6
II. The AEA's Regulatory Framework	8
III. Virginia's Ban on Uranium Mining	10
IV. Proceedings Below	13
REASONS FOR GRANTING THE WRIT	20
I. The Decision Below Directly Contravenes This Court's Precedents and Creates a Conflict in the Circuits	20
A. The Decision Below Contravenes This Court's Holdings in *PG&E* and *English*	22
B. The Decision Below Conflicts with the Tenth Circuit's Holding in *Skull Valley*	25
C. The Decision Below Conflicts with the Second Circuit's Holding in *Entergy*	31

TABLE OF CONTENTS – Continued

Page

II. Review Is Needed Because the Decision Below Threatens Critically Important Economic and National Security Interests..... 33

CONCLUSION..... 39

APPENDIX

Opinion of the United States Court of Appeals for the Fourth Circuit, *Virginia Uranium, Inc. v. Warren*, No. 16-1005 (Feb. 17, 2017) 1a

Opinion of the United States District Court for the Western District of Virginia, *Virginia Uranium, Inc. v. McAuliffe*, No. 4:15-cv-31 (Dec. 2, 2015) 53a

Constitutional Provisions and Statutes Involved

U.S. CONST. art. VI, § 2 .....83a

42 U.S.C.

§ 2011 .....83a

§ 2012 .....84a

§ 2013 .....85a

§ 2014 .....86a

§ 2018 .....90a

§ 2021 .....90a

§ 2022 .....103a

§ 2023 .....107a

§ 2091 .....107a

TABLE OF CONTENTS

	Page
TABLE OF AUTHORITIES	x
OPINIONS BELOW	1
JURISDICTION	1
CONSTITUTIONAL PROVISIONS AND STATUTES INVOLVED	1
INTRODUCTION	2
STATEMENT	6
I. Domestic Production and Use of Uranium and the Coles Hill Deposit	6
II. The AEA's Regulatory Framework	8
III. Virginia's Ban on Uranium Mining	10
IV. Proceedings Below	13
REASONS FOR GRANTING THE WRIT	20
I. The Decision Below Directly Contravenes This Court's Precedents and Creates a Conflict in the Circuits	20
A. The Decision Below Contravenes This Court's Holdings in *PG&E* and *English*	22
B. The Decision Below Conflicts with the Tenth Circuit's Holding in *Skull Valley*	25
C. The Decision Below Conflicts with the Second Circuit's Holding in *Entergy*	31

TABLE OF CONTENTS – Continued

Page

II. Review Is Needed Because the Decision Below Threatens Critically Important Economic and National Security Interests 33

CONCLUSION 39

APPENDIX

Opinion of the United States Court of Appeals for the Fourth Circuit, *Virginia Uranium, Inc. v. Warren*, No. 16-1005 (Feb. 17, 2017) 1a

Opinion of the United States District Court for the Western District of Virginia, *Virginia Uranium, Inc. v. McAuliffe*, No. 4:15-cv-31 (Dec. 2, 2015) 53a

Constitutional Provisions and Statutes Involved

U.S. CONST. art. VI, § 2 ..... 83a

42 U.S.C.

§ 2011 ..... 83a

§ 2012 ..... 84a

§ 2013 ..... 85a

§ 2014 ..... 86a

§ 2018 ..... 90a

§ 2021 ..... 90a

§ 2022 ..... 103a

§ 2023 ..... 107a

§ 2091 ..... 107a

TABLE OF CONTENTS – Continued

Page

§ 2092 ..... 108a

§ 2093 ..... 109a

§ 2094 ..... 110a

§ 2095 ..... 111a

§ 2096 ..... 112a

§ 2097 ..... 113a

§ 2099 ..... 113a

§ 2111 ..... 114a

§ 2112 ..... 116a

§ 2113 ..... 118a

§ 2114 ..... 123a

§ 2210b 126a

§ 2210i 130a

§ 2296b 130a

§ 2296b-1 ..... 131a

§ 2296b-2 ..... 123a

§ 2296b-3 ..... 132a

§ 2296b-4 ..... 133a

§ 2296b-6 ..... 134a

§ 2296b-7 ..... 135a

10 C.F.R. Pt. 40, App. A 136a

VA. CODE § 45.1-161.292:30 ..... 168a

VA. CODE § 45.1-181 ..... 168a

TABLE OF CONTENTS – Continued

Page

VA. CODE § 45.1-283 ..... 169a

Act of Feb. 20, 1981, H.J. Res. 324, 1981 Va. Acts 1404 ..... 169a

Act of Apr. 7, 1982, ch. 269, 1982 Va. Acts 426 ..... 170a

Act of Feb. 24, 1983, ch. 3, 1983 Va. Acts 3 ..... 177a

Complaint for Declaratory and Injunctive Relief, *Virginia Uranium, Inc. v. McAuliffe*, No. 4:15-cv-31 (Aug. 5, 2015) 190a

Appendix to Combined Brief in Opposition to Defendants' Motion to Dismiss and in Support of Plaintiffs' Cross-Motion for Summary Judgment, *Virginia Uranium, Inc. v. McAuliffe*, No. 4:15-cv-31 (Sept. 11, 2015) 239a

An Agreement Between the United States Nuclear Regulatory Comm'n and the Commonwealth of Va. for the Discontinuance of Certain Comm'n Regulatory Auth. and Responsibility Within the Commonwealth Pursuant to Section 274 of the Atomic Energy Act of 1954, As Amended (Mar. 18, 2009) 298a

Excerpts from Brief for the United States as Amicus Curiae, *Nielson v. Private Fuel Storage, LLC*, No. 04-575 (U.S. Sept. 2005) 306a

Excerpts from Petition for a Writ of Certiorari, *United States v. Eurodif, S.A.*, No. 07-1059 (U.S. Feb. 2008) 326a

TABLE OF CONTENTS – Continued

Page

Excerpts from U.S. ENERGY INFO. ADMIN., 2015 URANIUM MKTG. ANNUAL REPORT (2016) 351a

Excerpts from U.S. DEP'T OF ENERGY, EXCESS URANIUM INVENTORY MANAGEMENT PLAN (2013) 354a

Excerpts from GOV'T ACCOUNTABILITY OFFICE, EXCESS URANIUM INVENTORIES (2011) 362a

Excerpts from S. REP. NO. 1211 (1946) 372a

Excerpts from *Hearings on H.R. 4280 Before the H. Comm. on Military Affairs*, 79th Cong. (1945) 375a

Excerpts from *Hearing on the Nomination of Rick Perry to be Sec'y of Energy Before the S. Comm. on Energy & Nat'l Res.*, 115th Cong. (2017) 378a

Excerpts from *Hearing on the Nomination of Allison MacFarlane to be Chairman of the Nuclear Regulatory Comm'n Before the S. Comm. on Env't & Pub. Works*, 112th Cong. (2012) 383a

Excerpts from *Hearing on the Administration's Quadrennial Energy Rev. Before the S. Comm. on Energy & Nat. Res.*, 114th Cong. (2015) 386a

Letter from Ileana Ros-Lehtinen, Spencer Bachus, Peter King, & Howard P. McKeon, Members, U.S. House of Representatives, to Timothy F. Geithner, Secretary, U.S. Dep't of the Treasury (Oct. 5, 2010) 390a

TABLE OF CONTENTS – Continued

Page

James Conca, *America's Navy: The Unsung Heroes of Nuclear Energy*, FORBES (Oct. 28, 2014) 397a

TABLE OF AUTHORITIES

Page

CASES

Abraham v. Hodges,
255 F. Supp. 2d 539 (D.S.C. 2002).....37

English v. General Elec. Co.,
496 U.S. 72 (1990) .....*passim*

Entergy Nuclear Vermont Yankee, LLC v. Shumlin,
733 F.3d 393 (2d Cir. 2013) .....*passim*

Missouri v. Westinghouse Elec., LLC,
487 F. Supp. 2d 1076 (E.D. Mo. 2007).....37

Nielson v. Private Fuel Storage, LLC,
543 U.S. 1047 (2005).....5, 29

Nielson v. Private Fuel Storage, LLC,
546 U.S. 1060 (2005).....5

Northern States Power Co. v. Prairie Island Mdewakanton Sioux Indian Cmty.,
781 F. Supp. 612 (D. Minn. 1991).....37

Pacific Gas & Elec. Co. v. State Energy Res. Conservation & Dev. Comm'n,
461 U.S. 190 (1983) .....*passim*

Pacific Legal Found. v. State Energy Res. Conservation & Dev. Comm'n,
659 F.2d 903 (9th Cir. 1981).....4, 33

Silkwood v. Kerr-McGee Corp.,
464 U.S. 238 (1984) 10, 24, 27

Skull Valley Band of Goshute Indians v. Nielson,
376 F.3d 1223 (10th Cir. 2004).....*passim*

TABLE OF AUTHORITIES – Continued

Page

United Nuclear Corp. v. Cannon,
553 F. Supp. 1220 (D.R.I. 1982) 37

United States v. Eurodif S.A.,
555 U.S. 305 (2009) 36

Virginia Uranium, Inc. v. McAuliffe,
147 F. Supp. 3d 462 (W.D. Va. 2015) 14

Virginia Uranium, Inc. v. Warren,
848 F.3d 590 (4th Cir. 2017).....*passim*

STATUTORY AND REGULATORY PROVISIONS

28 U.S.C.

§ 1254(1) 1

§ 1331.....13

42 U.S.C.

§ 2012(a) 3

§ 2012(c).....3

§ 2012(d) 8

§ 2012(e) 38

§ 2014(e)(2) 9

§ 2014(z) 9

§ 2018.....31

§ 2021(b) 22

§ 2021(k) .....*passim*

§ 2051.....37

TABLE OF AUTHORITIES – Continued

Page

§ 2053 37

§ 2073 37

§ 2092 ..... 9, 37

§ 2093 37

§ 2111 37

§ 2111(a)-(b) 9

§ 2133 37

§ 2201(b) 37

§ 2296b-3(a) 7, 34

§ 2296b-6(a) 7, 34

10 C.F.R. Pt. 40, App. A 10

Act of Feb. 24, 1983, ch. 3, 1983 Va. Acts 3 29

Act of Apr. 7, 1982, ch. 269, 1982 Va. Acts 426 10

VA. CODE § 45.1-283 11

Atomic Energy: Hearings on H.R. 4280 Before the H. Comm. on Military Affairs, 79th Cong. 125 (1945) 9

S. REP. NO. 79-1211 9

PETITION FOR WRIT OF CERTIORARI

Virginia Uranium, Inc., et al. ("Petitioners") respectfully petition for a writ of certiorari to review the judgment of the United States Court of Appeals for the Fourth Circuit.

OPINIONS BELOW

The panel opinion of the Court of Appeals is reported at 848 F.3d 590 and reproduced at App.1a. The order of the District Court granting Respondents' motion to dismiss is reported at 147 F. Supp. 3d 462 and reproduced at App.53a.

JURISDICTION

The Court of Appeals issued its judgment on February 17, 2017. This Court has jurisdiction under 28 U.S.C. § 1254(1).

CONSTITUTIONAL PROVISIONS AND STATUTES INVOLVED

The relevant portions of Article VI of the United States Constitution; Atomic Energy Act, Title 42, Chapter 23 of the United States Code; Title 10, Part 40 of the Code of Federal Regulations; Title 45.1 of the Virginia Code; and the Acts of the General Assembly of

the Commonwealth of Virginia are reproduced at App.83a.

INTRODUCTION

The Commonwealth of Virginia has banned the mining of the largest deposit of uranium in the United States. Because the ban – as the Commonwealth has itself conceded for purposes of this case – was motivated by concerns about the radiological safety of activities regulated by the federal government pursuant to the Atomic Energy Act ("AEA"), it is preempted under this Court's precedents and the uniform body of lower-court case law applying them. But a divided panel of the Fourth Circuit declined "to follow the paths forged by [its] sister circuits" in those cases, App.16a, instead upholding Virginia's ban based on a flawed approach to preemption under the AEA that runs directly contrary to this Court's precedent and the previous decisions of "each Court of Appeals [to have] address[ed] the issue," App.42a (Traxler, J., dissenting). Because the panel opinion below creates a division of authority over an issue of profound national importance – the basic allocation of regulatory power over atomic energy and radiological safety and access to a strategically critical national resource – this Court should grant review and reverse the Fourth Circuit's decision.

Recognizing that the production and use of atomic energy is "vital to the common defense and security"

and must therefore "be regulated in the national interest," 42 U.S.C. § 2012(a), (c), Congress "has occupied the entire field of nuclear safety concerns, except the limited powers expressly ceded to the states." *Pacific Gas & Elec. Co. v. State Energy Res. Conservation & Dev. Comm'n* ("*PG&E*"), 461 U.S. 190, 212 (1983). In particular, States may regulate activities that fall within the purview of the Act only "for purposes *other* than protection against radiation hazards." 42 U.S.C. § 2021(k) (emphasis added). A state regulation of such activities that is "grounded in [radiological] safety concerns falls squarely within the prohibited field." *PG&E*, 461 U.S. at 213.

The Commonwealth's prohibition of uranium development transgresses the limits imposed by the AEA. While the AEA generally leaves to the States the authority to regulate the *mining* of uranium, the statute prohibits such regulation if its purpose is "protection against radiation hazards," § 2021(k), arising from activities the AEA has placed in the regulatory purview of the Nuclear Regulatory Commission ("NRC"). Here, all agree that the AEA vests the NRC with the exclusive power to regulate the radiological safety of both the milling of uranium ore and the safe handling and storage of the leftover "tailings." And the overriding purpose and motivation behind the Commonwealth's mining ban have nothing to do with mining, but are instead based on Virginia's concerns about the radiological safety of milling and tailings management. Because Virginia's ban is thus "grounded in [radiological] safety concerns" relating to activities that

are within the jurisdiction of the NRC, it "falls squarely within the prohibited field," and it cannot stand. *PG&E*, 461 U.S. at 213.

As Judge Traxler recognized in dissent below, this conclusion follows directly from each one of the Court of Appeals decisions that have previously dealt with a State's attempt to indirectly regulate the radiological safety of activities committed to the NRC's superintendence by *pretextually* regulating an activity within state jurisdiction. In *Skull Valley Band of Goshute Indians v. Nielson*, 376 F.3d 1223 (10th Cir. 2004), for example, the Tenth Circuit struck down Utah's attempt to prevent the storage of spent nuclear fuel within the State by, *inter alia*, banning the transportation of that material on key state roads and preventing local governments from providing basic municipal services, like police and fire protection or water access, to any facility built to store the fuel. The fact that these laws on their face pertained only to "matters that have been traditionally regulated by local governments" was irrelevant, the Tenth Circuit held, because under this Court's decision in *PG&E* "a state cannot use its authority to regulate law enforcement and other similar matters as a means of regulating radiological hazards" entrusted to federal care. *Id.* at 1247-48. *See also Entergy Nuclear Vermont Yankee, LLC v. Shumlin*, 733 F.3d 393, 415-23 (2d Cir. 2013); *Pacific Legal Found. v. State Energy Res. Conservation & Dev. Comm'n*, 659 F.2d 903, 922-23 (9th Cir. 1981), *aff'd*, *PG&E*, 461 U.S. 190 (1983).

Utah petitioned this Court for review of the Tenth Circuit's decision in *Skull Valley*, and the Court asked the Solicitor General to express the views of the United States. *Nielson v. Private Fuel Storage, LLC*, 543 U.S. 1047 (2005). In contrast to the panel majority in this case, the Solicitor General explained that this Court's precedents confirm "that part of 'the pre-empted field is defined by reference to the purpose of the state law.'" Brief for the United States as Amicus Curiae at 12, *Nielson v. Private Fuel Storage, LLC* (No. 04-575) (Nov. 2005), App.316a (quoting *English v. General Elec. Co.*, 496 U.S. 72, 84 (1990)). Because Utah did "not dispute that the purpose of the [challenged] provisions is to prevent the transportation and storage of" materials regulated exclusively by the NRC, *id.* at 17, App.322a (quotation marks omitted), the Solicitor General concluded that the Tenth Circuit had "applied well-established legal principles governing . . . preemption," App.313a, and further review was unwarranted. The Court denied certiorari. *Nielson v. Private Fuel Storage, LLC*, 546 U.S. 1060 (2005).

The panel majority in this case refused "to look past [the challenged] statute's plain meaning to decipher whether the legislature was motivated" by radiological safety concerns relating to uranium milling and tailings storage, App.14a, even though the Commonwealth itself conceded this was in fact its purpose, App.29a (Traxler, J., dissenting). Instead, the court held that it need not conduct "a pretext analysis to ascertain a legislature's true motive" to determine the preemptive scope of the AEA. App.15a.

The decision below directly contravenes this Court's holdings tying the boundaries of the field preempted by the AEA to the State's purpose, and it creates a Circuit split on this critical issue. The ruling below also has profoundly dangerous implications for the scope of federal authority over atomic energy and radiological safety generally, and it frustrates the purposes and objectives of the AEA by blocking private development, under the close regulation of the NRC, of the Nation's largest deposit of uranium at a time when the United States must depend upon foreign sources for 94 percent of its uranium supply – much of which comes from Russia or its client states.

This Court should grant the writ.

STATEMENT

I. Domestic Production and Use of Uranium and the Coles Hill Deposit

Nuclear reactors powered by uranium generate about 20 percent of the electricity consumed in the United States – all without significant production of greenhouse gases. App.202a. Uranium is also critical to national security. It is a necessary ingredient, of course, in our arsenal of nuclear weapons, App.4a, and it powers our Nation's fleet of over 80 nuclear submarines and aircraft carriers, App.397a.

The United States has an acute economic and strategic interest in securing a domestic supply of uranium. Indeed, federal legislation gives the Secretary of Energy "a continuing responsibility for the domestic uranium industry to encourage the use of domestic uranium," in furtherance of "the national need to avoid dependence on imports" of the material. 42 U.S.C. §§ 2296b-3(a), 2296b-6(a). But notwithstanding this "national need," 94 percent of the uranium used to supply the Nation's atomic energy needs is imported. App.353a. Even more troubling, 17 percent of those imports come from Russia, and another 22 percent come from Russia-allied states Kazakhstan and Uzbekistan. App.352a.

As the United States emphasized before this Court in a 2008 case involving imports of low-enriched uranium, ensuring the domestic supply of uranium is thus "a matter of compelling importance to U.S. national security interests." Petition for Writ of Certiorari at 30, *United States v. Eurodif, S.A.*, No. 07-1059 (Feb. 2008), App.347a. Relying on Russian-controlled sources of uranium would not only "leave the Russian Federation as the predominant supplier of enriched uranium for domestic electricity generation," it also "threatens the United States' ability to produce materials critical to military operations." *Id.* at 31, App.349a.

Petitioners own a deposit of approximately 119 million pounds of uranium ore that lies beneath the Coles Hill estate in Pittsylvania County, Virginia. App.201a. It is the largest known deposit of uranium in the United States and one of the largest in the

world. *Id.* Mining that uranium would be an economic boon for the region, creating an estimated 1,052 annual jobs and generating nearly $5 billion of net revenue for local businesses. App.202a.

Conventional uranium production involves three basic processes: mining, milling, and tailings management. First, the uranium ore must be extracted from the ground. The uranium ore must then be milled or processed into usable form. An on-site uranium mill grinds the uranium ore into a sand, which is then run through either an acidic or alkaline solution to separate the pure uranium from the waste rock commonly known as "tailings." The uranium is then concentrated into "yellowcake," which is commercially sold and shipped off-site for enrichment. App.203a. Finally, the tailings, which remain radioactive, must be permanently secured in a tailings management facility. App.204a.

II. The AEA's Regulatory Framework

Shortly after the dawn of the atomic age, Congress enacted the AEA in 1946 with the twin purposes of "encourag[ing] the private sector to become involved in the development of atomic energy for peaceful purposes," *PG&E*, 461 U.S. at 207, and ensuring that the "processing and utilization" of uranium is "regulated in the national interest and in order to . . . protect the health and safety of the public," 42 U.S.C. § 2012(d). Accordingly, the AEA, as amended, vests the NRC with authority to establish regulatory limits and controls

necessary to ensure against the radiological safety hazards posed by the domestic production of nuclear energy, including the development of uranium.

The AEA requires an NRC license for the transfer, delivery, or possession of "source material," which is defined to include uranium, 42 U.S.C. § 2014(z), only "after removal from its place of deposit in nature." 42 U.S.C. § 2092. At the outset, Congress chose not to regulate uranium mining itself because it concluded that (i) ordinary mining itself does not pose serious radiological hazards; and (ii) regulation of uranium mining would undermine Congress's policy of encouraging the development of atomic energy by discouraging uranium mining and prospecting. S. REP. NO. 79-1211, at 18 (1946), App.373a; *see also Atomic Energy: Hearings on H.R. 4280 Before the H. Comm. on Military Affairs*, 79th Cong. 125 (1945), App.376a.

Of particular relevance to the issues in this case, the Act grants the NRC exclusive regulatory jurisdiction over the radiological safety of uranium milling and tailings management. The Act requires that anyone who wishes to "transfer or receive in interstate commerce, manufacture, produce, transfer, acquire, own, possess, import, or export" any radioactive "byproduct material" – specifically defined to include "the tailings or wastes produced by the extraction or concentration of uranium" – must first receive a license from the NRC. 42 U.S.C. §§ 2014(e)(2), 2111(a)-(b). And the NRC has promulgated detailed and extensive regulations governing the design, construction, and operation of a tailings management facility, designed to

block the pathways through which radioactive elements might be exposed to the surrounding environment. 10 C.F.R. Pt. 40, App. A.

The provision of the Act that is at the heart of this case permits States, with narrow exceptions, to regulate "activities," including activities committed to the NRC's regulatory jurisdiction, but only "for purposes *other than protection against radiation hazards*." 42 U.S.C. § 2021(k) (emphasis added). Congress has long premised this policy on its conclusion that the NRC "was more qualified to determine what type of safety standards should be enacted in this complex area." *Silkwood v. Kerr-McGee Corp.*, 464 U.S. 238, 250 (1984). This Court has thus repeatedly held that the federal government has "occupied the entire field of nuclear safety concerns." *PG&E*, 461 U.S. at 212. The scope of this preempted field extends to any state regulation that is enacted and enforced *for the purpose* of protecting against radiation hazards relating to an activity within the NRC's regulatory authority, such as uranium milling and tailings storage, even where the activity the State seeks to regulate is otherwise within the State's traditional police powers.

III. Virginia's Ban on Uranium Mining

In 1982, shortly after the Coles Hill deposit was discovered, the Virginia General Assembly enacted a temporary moratorium on uranium mining. Act of Apr. 7, 1982, ch. 269, 1982 Va. Acts 426, App.170a. A year later, the ban was effectively made permanent:

> Notwithstanding any other provision of law, permit applications for uranium mining shall not be accepted by any agency of the Commonwealth prior to July 1, 1984, and until a program for permitting uranium mining is established by statute.

VA. CODE § 45.1-283.

Though Section 45.1-283 is literally phrased as a ban on "uranium mining," *id.*, the public record leaves no doubt that the mining ban was and is motivated by radiological safety concerns related to uranium milling and tailings management activities – matters that all agree are within the exclusive regulatory jurisdiction of the NRC and are thus beyond the State's authority. Indeed, in the same 1983 Act that extended the mining "moratorium" indefinitely, the Virginia Legislature simultaneously created an official working-group – the Uranium Administrative Group ("UAG") – which it directed to conduct an in-depth "evaluation of the costs and benefits" of uranium development, App.178a, including specifically a number of potential radiological safety concerns arising out of milling and tailings management activities, App.184a-85a (directing UAG to analyze, *inter alia*, the "reagents and processing materials to be used" in milling operations, the "quantity and quality of liquid and solid wastes," the "quantity and characteristics of the tailings," the "method of disposal," and the potential "atmospheric releases and the methods for controlling such releases"). The Act thus makes clear that while the operative language of the ban may have referred only to mining – the first,

necessary step in the mining, milling, tailings storage sequence – its overriding purpose was to bar milling and tailings management operations based on concerns about the radiological safety of those activities.

When the Commonwealth formally reconsidered the ban on uranium development from 2008 to 2013,[1] its ultimate refusal to permit uranium mining was again grounded squarely in radiological safety concerns about milling and tailings management. The evidence of this is overwhelming. To take a single example, 31 members of the General Assembly issued public statements expressing their opposition to lifting the ban, and every single one cited radiological health and safety concerns; all but two of them referenced fears that uranium tailings would contaminate the water. App.239a-97a.

In short, the Commonwealth enacted and has maintained the ban on uranium mining based predominantly, if not exclusively, on its view that NRC regulation of uranium milling and tailings management operations is not sufficiently robust to protect against radiation hazards.

---

[1] Beginning in the late 1980s, the price of uranium plummeted, exploiting the Coles Hill deposit was not economically viable, and as a result no further action was taken until the price rebounded. From 2008 to 2013, Petitioners attempted to convince the Commonwealth to repeal the ban. While the Commonwealth produced several new studies reevaluating the issue, and legislators introduced a bill that would have lifted the ban, opponents of uranium development succeeded in keeping the ban in place.

IV. Proceedings Below

1. After the legislative effort to repeal the ban failed, Petitioners filed a complaint in the Western District of Virginia, seeking to enjoin enforcement of the Commonwealth's ban on the ground that it is preempted by the AEA. The District Court had jurisdiction over the action under 28 U.S.C. § 1331.

Petitioners alleged that the purpose of the uranium mining ban was to protect against radiological safety hazards related to milling and tailings management. App.216a, 222a, 232a. The defendants – Respondents here – moved to dismiss the complaint for failure to state a claim, and thus conceded for purposes of their motion that the purpose of the ban was indeed to protect against radiation hazards arising from milling and tailings operations. Respondents conceded that the AEA gives the NRC exclusive regulatory jurisdiction over the radiological safety of uranium milling and tailings activities, but argued that the State has unfettered authority to regulate uranium mining, even where, as here, the purpose of the prohibition against mining is actually to prohibit milling and tailings operations on the basis of radiological safety concerns. Petitioners cross-moved for summary judgment, arguing that the text of the AEA and this Court's decisions in *PG&E* and later cases compelled the conclusion that the ban was preempted. Petitioners' summary judgment motion was supported by over 700 pages of exhibits demonstrating that the overriding purpose of the mining ban was to bar the milling of

uranium ore and the storage of tailings in the Commonwealth.

The District Court granted the Commonwealth's motion to dismiss and denied Petitioners' cross-motion for summary judgment. App.53a. The court held that Virginia's ban on uranium mining was not preempted because "[t]he AEA institutes no permitting regime respecting nonfederal uranium deposits' conventional mining and does not otherwise regulate nonfederal uranium deposits or their conventional mining." App.68a. The court deemed it entirely irrelevant that "the General Assembly enacted [the uranium mining ban] out of concern for uranium (and, therefore, radiological) safety," App.69a, because the Commonwealth "asserted the right to act," as a formal matter, only on an "activity or material" – uranium mining – over which "the AEA is silent and confers no authority," App.78a.

The court held that "there is no occasion to inquire into [the ban's] purpose." *Id.* *PG&E*'s clear statements to the contrary, the court concluded, were nonbinding dicta that the court was free to ignore. "Rather than . . . extrapolating *Pacific Gas & Electric Co.*'s dicta and selecting among the opinion's (at times) seemingly-inconsistent language, this Court will adhere to the surer conclusion by scrutinizing the statutes uniquely before it and addressing their interaction under intelligible and longstanding principles of preemption." App.79a.

2. A divided panel of the Fourth Circuit affirmed. App.1a-20a. The panel majority acknowledged that Section 2021(k) of the AEA, as construed by this Court in *PG&E*, "prohibits states from regulating, for [radiological] safety reasons, activities that are in any way regulated by the federal government under the Atomic Energy Act." App.11a (quotation marks omitted). And the majority further conceded that "uranium milling and tailings storage are 'activities' under Section 2021(k) because they are regulated by the NRC," and "states may therefore not regulate them except for purposes other than protection against radiation hazards." App.13a-14a.[2] Moreover, the majority accepted the Commonwealth's concession (at least for purposes of the motion to dismiss) that the purpose of the ban on uranium mining was to prohibit uranium milling and tailings storage activities based on radiological safety concerns. App.10a ("the Commonwealth concedes that it lacks a non-safety rationale for banning uranium mining"). In short, the majority conceded all

---

[2] The majority also addressed whether "uranium mining" itself, as opposed to milling and tailings storage, "is an 'activity' under Section 2021(k) of the Atomic Energy Act, which . . . states can't regulate . . . for the purpose of protecting against radiation hazards." App.8a. The majority ultimately concluded that mining is not such an activity. App.13a. But that issue does not merit this Court's review, nor is it necessary to resolve in order to reach the question presented here, because all agree that *milling and tailings management are* "'activities' under Section 2021(k)" that States may not regulate for radiological safety reasons, App.13a, and it is *those* activities that, by Virginia's own admission, its ban deliberately targets.

of the elements of field preemption under the AEA, and that should have been the end of the case.

Nevertheless, the majority held that it need not inquire into the purpose of Virginia's mining ban. App.14a-15a. Observing that "[t]here are some areas of law – such as actions arising under the Equal Protection Clause of the Fourteenth Amendment" where "we may conduct a pretext analysis to ascertain a legislature's true motive," the court reasoned that "this is not such a case" because Petitioners have "not allege[d] that the Virginia legislature acted with discriminatory intent. . . ." App.15a. Accordingly, because the Commonwealth's statute facially bans only the mining of uranium and "does not mention uranium milling or tailings storage," the majority declined "to look past the statute's plain meaning to decipher whether the legislature was motivated to pass the ban by a desire to regulate uranium milling [and] tailings." App.14a.

The majority did not explain how blinding itself to the Commonwealth's motivation for the ban could be reconciled with this Court's clear, repeated holdings that the AEA's preemptive scope is "defined . . . by reference to the motivation behind the state law," *English*, 496 U.S. at 84, and that a state regulation "grounded in [radiological] safety concerns" thus "falls squarely within the prohibited field," *PG&E*, 461 U.S. at 213.

The majority also declined Petitioners' urging that it "follow the paths forged by our sister circuits in *Skull Valley* . . . and *Entergy*." App.16a. The Second and Tenth Circuits, in those cases, directly repudiated the

proposition that a court could, consistent with this Court's precedents, "blindly accept the articulated purpose of a state statute," *Entergy*, 733 F.3d at 416 (brackets omitted), and permit a State to use its authority over activities left within its jurisdiction "as a means of regulating radiological hazards," *Skull Valley*, 376 F.3d at 1248. Both courts based their respective holdings that the state laws at issue were preempted on the very "pretext analysis" that the panel majority here refused to undertake. App.15a. While the majority asserted that both cases "are distinguishable" because the preempted state laws expressly "targeted" activities within the NRC's exclusive jurisdiction, App.16a, this purported distinction does not bear even minimal scrutiny. *See infra* at 27-33.

Finally, the majority concluded that the Commonwealth's ban was not preempted "as an obstacle to the full implementation of the objectives of the Atomic Energy Act," reasoning that the ban could have "little effect" on the Act's "stated purpose of promoting the safe development and use of atomic energy." App.18a, 19a. That was so, according to the majority, because "over ninety percent of the uranium used by the country's atomic energy industry is imported," and in any event, the AEA "allows the federal government to forcibly expand the production of domestic source material" by taking, through eminent domain, any "real property containing deposits" of uranium. App.19a. The majority did not attempt to reconcile its conclusion with this Court's holding that, at least since 1954, Congress has

"determin[ed] that the national interest would be best served if the Government encouraged the *private sector* to become involved in the development of atomic energy for peaceful purposes under a program of federal regulation and licensing. . . ." *PG&E*, 461 U.S. at 207 (emphasis added).

3. Judge Traxler dissented. This Court's opinions in *PG&E* and *English* "make[] clear that the AEA preempts state statutes enacted for the purpose of protecting against the radiological dangers of activities the AEA regulates." App.52a (Traxler, J., dissenting). And "[b]ecause the Commonwealth has conceded at this point in the litigation that its statute was enacted for just that purpose, the Virginia statute clearly falls within that prohibited field." *Id.* Indeed, Judge Traxler noted that this conclusion follows *a fortiori* from *PG&E*, where "California claimed that the moratorium [at issue] was actually grounded on a non-safety concern." In contrast, "*the Commonwealth makes no such claim here.* Rather, . . . the Commonwealth *concedes* . . . that the moratorium is grounded on the Virginia legislature's concerns regarding the radiological safety of uranium ore milling and tailings storage." App.40a-41a.

The majority departed from this Court's precedents and created a Circuit conflict, Judge Traxler concluded, by refusing to consider whether the ban was enacted for preempted purposes simply because "the *substance* of Virginia's law – a ban on conventional uranium mining – does not conflict with the Act." App.39a. Judge Traxler explained that the same was

true of the law at issue in *PG&E*, yet the Court there "held [that] a statute's *purpose* can itself bring the statute within the prohibited field." App.39a (citing *PG&E*, 461 U.S. at 213; *English*, 496 U.S. at 84). Judge Traxler further emphasized that, "[u]ntil today, each Court of Appeals addressing the issue since *Pacific Gas* has held that state statutes enacted to protect against the radiological dangers of activities the AEA regulates are preempted *regardless of whether the statutory text reveals that purpose and regardless of whether the statute expressly prohibits an activity the Act regulates*." App.42a.

The Tenth Circuit's decision in *Skull Valley* squarely held that "regardless of the nature of the activity the [challenged] provisions directly addressed, the applicable preemption analysis 'requires consideration of the *purpose* of the allegedly preempted statute.'" App.43a (quoting *Skull Valley*, 376 F.3d at 1252 (emphasis added by Judge Traxler)). And the Second Circuit in *Entergy* likewise struck down a Vermont law based on "*extra*-textual indicia" showing "that radiological safety concerns were the primary purpose for the statute's enactment" – despite a statement in "[t]he text of the Vermont law" that "explicitly declared that the statute was *not* grounded in nuclear safety concerns." App.45a, 46a (quotation marks omitted) (citing *Entergy*, 733 F.3d at 417-22). Virginia's ban falls within the AEA's preempted field, Judge Traxler concluded, under "the very same principles." App.47a.

Finally, Judge Traxler also would have held that the Commonwealth's ban is preempted as an obstacle

to the AEA's purposes and objectives. The Act's central objective "was to ensure that . . . the power of the private sector could be unleashed to develop nuclear energy." App.47a. But "Virginia, not trusting that the federal government has sufficiently protected against the radiological dangers of uranium milling and tailings management, has unilaterally sought to *prevent the involvement of the very private-sector forces that the Act was designed to unleash.*" App.47a-48a.

REASONS FOR GRANTING THE WRIT

I. The Decision Below Directly Contravenes This Court's Precedents and Creates a Conflict in the Circuits.

Notwithstanding this Court's repeated instruction that the AEA's "pre-empted field" is defined, "in part, by reference to the motivation behind [a challenged] state law," *English*, 496 U.S. at 84, the panel majority below cast its refusal "to examine why the Commonwealth chose to ban uranium mining" as "adher[ing] to the edict that courts will not strike down an otherwise constitutional statute on the basis of an alleged illicit legislative motive," App.15a (quotation marks omitted). Focusing solely on "the Commonwealth's two-sentence moratorium on uranium mining," the majority emphasized that "the plain language of the Commonwealth's ban does not mention uranium milling or tailings storage." App.14a, 17a. And that, according to the majority, was the end of the case: "[T]he Commonwealth's mining ban does not purport to regulate an

activity within the Act's reach, and thus we need proceed no further." App.17a-18a.

The panel majority thus refused "to engage in the sort of pretext analysis" undertaken by other courts of appeals "to decipher whether the legislature was motivated to pass the ban by a desire to regulate uranium milling or tailings storage." App.14a, 17a. In so doing, the majority blinded itself to several inconvenient facts. First, it ignored the fact that the two-sentence ban on uranium mining was just one part of a statutory scheme that included a lengthy companion provision requiring an in-depth study of the radiological safety issues associated with uranium milling and tailings storage. Second, the majority ignored a trial court record teeming with evidence that the genuine purpose of the uranium mining ban was to protect the Commonwealth against the radiological hazards of uranium milling and tailings storage. Finally, and most remarkably, the majority blinded itself to the Commonwealth's *admission* (at least for purposes of its motion to dismiss) that its true motivation for banning uranium mining was to protect against the radiological hazards of uranium milling and tailings storage. The majority thus refused to engage in a "pretext analysis" of the mining ban even in the face of the Commonwealth's admission that the ban was in fact a pretext.

The decision below simply cannot be squared with the AEA or with this Court's decisions interpreting it. Nor can the majority's holding be reconciled with the "Court of Appeals [decisions] addressing the issue since *Pacific Gas*," all of which have "held that state

statutes enacted to protect against the radiological dangers of activities the AEA regulates are preempted *. . . regardless of whether the statute expressly prohibits an activity the Act regulates.*" App.42a (Traxler, J., dissenting). The Court should grant certiorari to resolve the conflict in the circuits created by the decision below on this question of overriding importance to our Nation's economic and national security.

A. The Decision Below Contravenes This Court's Holdings in *PG&E* and *English*.

The text of Section 2021(k) of the AEA authorizes the States "to regulate activities," including activities within NRC's regulatory jurisdiction, "for purposes *other than* protection against radiation hazards." 42 U.S.C. § 2021(k) (emphasis added).[3] Congress has thus unambiguously demarcated the scope of the field preempted by the AEA by reference to the "purposes" that States may pursue when enacting regulations of any such activity. *See PG&E*, 461 U.S. at 210.

This Court's holding in *PG&E* cements this understanding of the AEA's preemptive scope. In that case, California had imposed a "moratorium" on the construction of new nuclear power plants until such time as a state commission determined that "there has been

---

[3] The AEA separately permits States to enter an "agreement" with the NRC permitting them to regulate activities otherwise subject to exclusive federal regulation, 42 U.S.C. § 2021(b), but the Commonwealth's agreement does not extend to uranium milling or tailings management. App.298a, 301a.

developed . . . a demonstrated technology or means for the disposal of high-level nuclear waste." *PG&E*, 461 U.S. at 198. In analyzing the validity of that moratorium under the AEA, the Court recognized that the Act did not directly preempt California's moratorium in express terms, for it "does not at any point expressly require the States to construct or authorize nuclear power plants or prohibit the States from deciding, as an absolute or conditional matter, not to permit the construction of any further reactors." *Id.* at 205.

The Court thus turned to the question whether the State's regulation "falls within the field that the federal government has preserved for its own exclusive control." *Id.* at 204. Quoting Section 2021(k), the Court held that "the distinction drawn [by the AEA] between the spheres of activity left respectively to the federal government and the states" turns on the *purpose* of the State regulation. *Id.* at 210. While "the States retain their traditional responsibility in the field of regulating electrical utilities for determining questions of need, reliability, cost and other related state concerns," the AEA's text dictated "that the federal government should regulate the radiological safety aspects involved in the construction and operation of a nuclear plant." *Id.* at 205.

Accordingly, the Court held, "[a] state moratorium on nuclear construction grounded in safety concerns falls squarely within the prohibited field," *id.* at 213, even though a State prohibition on the construction of nuclear power plants for any other reason would not be preempted. "That being the case, it is necessary to

determine whether there is a non-safety rationale for [California's moratorium]." *Id.* This Court ultimately accepted the Ninth Circuit's determination – based on a review of the pertinent legislative history – that the moratorium "was aimed at economic problems, not radiation hazards," *id.*, and upheld the California statute.[4]

Any doubt about the governing test adopted by *PG&E* was eliminated by this Court's subsequent opinions. In *English*, this Court explicitly reaffirmed *PG&E*'s holding that "the [AEA's] pre-empted field is defined by reference to the *purpose* of the state law in question." 496 U.S. at 84 (emphasis added); *accord Silkwood*, 464 U.S. at 249. *English* emphasized that courts must determine the law's purpose "by reference

---

[4] The majority below read *PG&E* as foreclosing any "searching scrutiny of legislative intent." App.15a, pointing to dicta in the opinion describing the "inquiry into legislative motive" as "often an unsatisfactory venture." *PG&E*, 461 U.S. at 216; *see* App.15a. But the statement from *PG&E* relied upon by the court below did not suggest that the State's true purpose could be ignored; the Court merely adverted to the difficulty of ascertaining it and to the importance of affording some measure of latitude before concluding that "a state has misused the authority left in its hands." 461 U.S. at 216. Had the *PG&E* Court really adopted the panel majority's stance of *willful blindness* to a State's genuine motive, it obviously: (1) would not have erected a test that expressly turns on whether the challenged law is "grounded in safety concerns." *id.* at 213; (2) would not have stated that "it is necessary to determine whether there is a non-safety rationale" for the challenged ban or discussed, at length, the legislative history of the state law, *id.* at 213-16; and (3) would have corrected Justice Blackmun's characterization of the Court's opinion as adopting "the elusive test of legislative motive," *id.* at 229 (Blackmun, J., concurring in part).

to the motivation behind the state law," and in accordance with "the state law's actual effect." 496 U.S. at 84. Thus, courts are not free to blind themselves, as did the majority below, to evidence (let alone an *admission*) that a state law's true purpose and effect is to "protect[] against radiation hazards" of activities that are subject to regulation by the NRC pursuant to the AEA. *Id.* (quoting 42 U.S.C. § 2021(k)).

B. The Decision Below Conflicts with the Tenth Circuit's Holding in *Skull Valley*.

The Tenth Circuit's opinion in *Skull Valley* is directly contrary to the decision below. The court in that case struck down a variety of Utah laws designed to prevent the storage of spent nuclear fuel ("SNF") within the State. Although the federal government has exclusive authority over the radiological safety aspects of SNF storage, Utah attempted to prevent its storage within its borders by enacting a series of restrictions that ostensibly regulated activities that were squarely within the State's police power. One provision barred "counties from providing 'municipal-type services,' including fire protection, garbage disposal, water, electricity, and law enforcement, to SNF transportation and storage facilities within the county." 376 F.3d at 1245.

It is difficult to conceive of an activity closer to the heart of a State's traditional police power – and more remote from the activities regulated by the NRC – than the provision of utilities, police and fire protection, and

sewer access. But because Utah's regulation of those activities was motivated by radiological safety concerns related to an activity within the NRC's regulatory jurisdiction, the Tenth Circuit concluded that this regulation of ordinary municipal services fell within the AEA's preempted field.

> Although it is true that the County Planning Provisions address law enforcement, fire protection, waste and garbage collection and other similar matters that have been traditionally regulated by local governments, that fact does not trump the preemption analysis that the controlling Supreme Court decisions require us to undertake. Under that analysis, we consider the purpose and effect of the state law at issue, and, as a result, *a state cannot use its authority to regulate law enforcement and other similar matters as a means of regulating radiological hazards.*

Id. at 1247-48 (emphasis added).

Another provision adopted by Utah took control of "the only road permitting access to the [proposed spent fuel storage] facility . . . by designating it as a state highway," and then "requir[ed] the consent of the governor and the state legislature" before any "company engaged in the transportation or storage of SNF" was allowed to drive on it. *Id.* at 1252. The AEA, of course, does not regulate the use of state roads, and ordinarily it would not preempt the exercise of a State's traditional police power over those roads. But that did not

stop the Tenth Circuit from striking this provision down.

> [W]e are required to follow the preemption analysis set forth in *Pacific Gas*, *Silkwood*, and *English*, *which requires consideration of the purpose of the allegedly preempted statute*, along with its effects. Here, the evidence cited by the district court indicates that the Road Provisions were enacted in order to prevent the transportation and storage of SNF in Utah. . . . The record thus establishes that the Road Provisions were enacted for reasons of radiological safety and are therefore preempted.

Id. (emphasis added) (citations omitted).

The panel majority below asserted that *Skull Valley* is "distinguishable," App.16a, because the Utah laws struck down by the Tenth Circuit "surgically targeted the transportation and storage of spent nuclear fuel" – "an activity regulated by the NRC." *Id.* But Petitioners have alleged, and Respondents *concede* at least for purposes of the motion to dismiss before the Court, that the ban on uranium mining likewise targets "uranium milling and uranium tailings management" based on "the legislature's radiological safety concerns." App.29a (Traxler, J., dissenting). On this point, the two cases are on all fours.

The panel majority also contended that "unlike Virginia's ban on mining, all but two of the challenged Utah laws specifically mentioned th[e] NRC-regulated activity" – storage of SNF. App.16a. But this purported

distinction also fails to create any daylight between the two decisions, for the Tenth Circuit also struck down the two laws that *did not* mention SNF. And it did so based on reasoning that *directly repudiates* the approach adopted below. Whereas the majority refused to "look past the statute's plain meaning to decipher whether the legislature was motivated to pass the ban by [preempted reasons]," App.14a, the Tenth Circuit *rejected* Utah's invitation to adopt that approach, reasoning instead that "the controlling Supreme Court decisions require us to . . . consider the purpose and effect of the state law at issue, and, as a result, a state cannot use its authority to regulate law enforcement and other similar matters as a means of regulating radiological hazards." *Skull Valley*, 376 F.3d at 1247-48. The panel majority was thus simply wrong to suggest that *Skull Valley* did not "engage in the sort of pretext analysis that Virginia Uranium presses here." App.17a.

The majority below further suggested that even though two of the Utah provisions did not "specifically mention[]" any "NRC-regulated activity," those laws could be distinguished from Virginia's mining ban because they "w[ere] packaged with . . . [other] regulations targeting spent nuclear fuel directly." App.16a. But yet again, the same is true of Virginia's law. The 1983 Act establishing the mining ban in its current form was "packaged with" other provisions that "targeted" uranium milling and tailings operations directly. As noted earlier, that Act created a state agency and tasked it with studying milling and tailings on the most granular level – from "the capacity of the mill"

and the type of "reagents and processing materials to be used," to the "size of the tailings disposal area" and its "hydrology, hydrogeology, and surficial and bedrock geology" – so that it could produce a report detailing "the costs and benefits" of lifting the ban. Act of Feb. 24, 1983, ch. 3, 1983 Va. Acts 3, App.177a-89a.

Nor was the majority correct in asserting that Virginia's ban "pales in comparison to Utah's comprehensive scheme intended to keep spent nuclear fuel out of the State," App.17a – at least not with respect to the comparative likelihood that the two laws would successfully prohibit the disfavored activity in the state. Mining uranium out of the ground is a necessary antecedent to milling it and storing the resulting tailings – no less than transporting SNF over the only road leading to the storage facility is a necessary antecedent to storing it there. By banning the first activity in this chain of events – uranium mining – Virginia has achieved its objective – effectively banning uranium milling and tailings management operations – even though the regulatory safety aspects of those activities are regulated exclusively by the NRC pursuant to the AEA.

After the Tenth Circuit's decision in *Skull Valley*, Utah petitioned this Court for certiorari, and the Court asked for the views of the Solicitor General on whether review should be granted. *Nielson v. Private Fuel Storage, LLC*, 543 U.S. 1047 (2005). The Solicitor General "wholeheartedly endorsed the Tenth Circuit's analysis and took the view that certiorari should be denied." App.44a n.16 (Traxler, J., dissenting).

Specifically, the United States' brief in this Court rejected Utah's argument that its "purpose in protecting against radiation hazards does not bring the challenged legislation within the preempted field." Brief for the United States as Amicus Curiae at 12, *Nielson v. Private Fuel Storage, LLC* (No. 04-575) (Nov. 2005), App.316a. The United States reasoned that "there is no basis for this Court to reconsider" its settled view "that 'part of the pre-empted field is defined by reference to the purpose of the state law.'" *Id.* (quoting *English*, 496 U.S. at 84). The Solicitor General specifically addressed the provisions of the Utah statute regulating the State's roads. Even though the AEA does not regulate the use of State highways, the Solicitor General agreed with the Tenth Circuit that the road provisions were preempted because the State "do[es] not dispute that the purpose of the[se] . . . provisions is to prevent the transportation and storage of SNF in Utah," and "the legislative history . . . confirms that they were based on health and safety concerns." *Id.* at 17, App.322a (quotation marks omitted). Accordingly, the Solicitor General advised that "[f]urther review is not warranted." *Id.* at 6, App.313a. The Court denied certiorari. 546 U.S. 1060 (2005).

The short of it is this: if the Fourth Circuit was correct to conclude, based on the text of the Commonwealth's ban, that Virginia is merely regulating uranium mining, then Utah was merely regulating roads and municipal services, and the Tenth Circuit was wrong to strike down its laws. But if the Tenth Circuit was right that the AEA preempted the challenged

Utah laws because they "targeted the transportation and storage of spent nuclear fuel," App.16a, then the Fourth Circuit was wrong to uphold the mining ban because it was conceded for purposes of the motion to dismiss before the court that the Virginia statute likewise targets uranium milling and tailings management. There is simply no daylight between the two cases.

C. The Decision Below Conflicts with the Second Circuit's Holding in *Entergy*.

The opinion below conflicts just as sharply with the Second Circuit's decision in *Entergy*. In that case, the Vermont Legislature had attempted to shut down a nuclear power plant by adopting a statute providing that "a nuclear energy generating plant may be operated in Vermont only with the explicit approval of the General Assembly." 733 F.3d at 403. Like the California moratorium at issue in *PG&E*, this statute on its face regulated only "the generation, sale, or transmission of electric power produced through the use of nuclear facilities," activities over which the AEA expressly preserves state authority. 42 U.S.C. § 2018.

Moreover, the Vermont Legislature included in its statute a declaration specifically stating that the Act's purpose was *not* grounded in radiological safety concerns, but rather was designed to foster a "larger societal discussion of broader economic and environmental issues relating to the operation of a nuclear facility in the state. . . ." *Entergy*, 733 F.3d at 403. Under *PG&E*,

all agree that a state law enacted for these non-radiological-safety reasons would not be preempted.

The Second Circuit, however, refused to defer to the statute's stated purpose:

> We do not blindly accept the articulated purpose of [a state statute] for preemption purposes. If that were the rule, legislatures could nullify nearly all unwanted federal legislation by simply publishing a legislative committee report articulating some state interest or policy – other than frustration of the federal objective – that would be tangentially furthered by the proposed state law.

Id. at 416 (brackets in original) (quotation marks omitted). Instead, *PG&E* "requires us to conduct a . . . searching review to determine whether a statute was enacted based upon radiological safety concerns," *id.*, a review that included scrutinizing "the statute's legislative history to determine if it was passed with an impermissible motive," *id.* at 418. After closely reviewing the available evidence of legislative motivation, which revealed that "both state legislators and regulators" had with "remarkable consistency . . . expressed concern about radiological safety and expressed a desire to evade federal preemption," the court concluded that "radiological safety [was] the Vermont legislature's primary purpose in enacting the statute." *Id.* at 420. Accordingly, it struck the statute down.

The decision below conflicts with *Entergy*'s analysis at every turn. Whereas the Second Circuit refused

to end its "inquiry . . . at the text of the statute" and "blindly accept [its] articulated purpose," *id.* at 416, the panel majority here would not "look past the statute's plain meaning to decipher" the legislature's genuine motivations, App.14a. Where *Entergy* conducted a "searching review to determine whether a statute was enacted based upon [impermissible] concerns," 733 F.3d at 416, the Fourth Circuit below "decline[d] to examine why the Commonwealth chose to ban uranium mining," reasoning that "this is not . . . a case" that requires "a more searching scrutiny of legislative intent," App.15a.[5]

II. Review Is Needed Because the Decision Below Threatens Critically Important Economic and National Security Interests.

"The stakes in this case are significant." App.21a (Traxler, J., dissenting). Uranium mined by Petitioners would be used to fuel the generators that produce one-fifth of our electricity, to power our military's nuclear submarines and aircraft carriers, and to maintain our arsenal of nuclear weapons. The decision below thus directly impedes both our Nation's effort to achieve energy independence and our national security, and it threatens to upset the equilibrium that has developed

---

[5] The decision below also conflicts with the approach adopted by the Ninth Circuit – and affirmed by this Court – in *PG&E* itself, which likewise held that the field preempted by the AEA is defined by the *purpose* of the state law in question. *Pacific Legal Found. v. State Energy Res. Conservation & Dev. Comm'n*, 659 F.2d 903, 922 (9th Cir. 1981), *aff'd*, *PG&E*, 461 U.S. 190 (1983).

in the lower courts over the appropriate allocation of authority over atomic energy more broadly. An issue of such import must be settled by this Court.

1. At least since 1992, Congress has recognized "the national need to avoid dependence on imports" of uranium. 42 U.S.C. § 2296b-6(a). Accordingly, it has been the policy of the United States for the Government to take "a continuing responsibility for the domestic uranium industry to encourage the use of domestic uranium." 42 U.S.C. § 2296b-3(a). The Secretary of Energy is required to "report annually" to Congress "on action taken with respect to the domestic uranium industry," to "encourage States and utility regulatory authorities to take into consideration" the national interest in a healthy domestic uranium industry, and to annually "report to the Congress on the progress of the Secretary in encouraging actions by State regulatory authorities" in furtherance of this interest. *Id.* §§ 2296b-3(a), 2296b-6(a)-(b).

The United States has repeatedly reiterated the vital importance of the domestic uranium industry to the Nation's energy policy. For instance, a 2011 report by the Government Accountability Office emphasized that "[a] healthy and reliable domestic uranium industry is considered essential to ensuring that nuclear power remains a viable option for supplying the nation's energy needs." App.366a-67a. And the Department of Energy has likewise reaffirmed its "commit[ment] to the maintenance of a strong domestic uranium industry." App.357a. By blocking the development of the largest natural deposit of uranium in

the United States, the opinion below seriously impedes these goals.

The decision of the Fourth Circuit also threatens serious harm to our national security by completely foreclosing access to the largest uranium deposit in the United States. As noted above, the United States must currently rely upon imports for 94 percent of the uranium it consumes, much of which comes from Russia and its client states. App.352a, 353a. Numerous members of Congress have repeatedly stressed that establishing a domestic source of uranium – and curbing our reliance on Russian-controlled sources – is a critical national security imperative. *See* App.381a (Statement of Sen. Portman) ("being reliant on foreign countries including Russia for uranium" is "a national security issue"); App.383a (Statement of Sen. Barrasso) (indicating that "domestic uranium production is preferable to being dependent on importing foreign uranium from countries like Russia"); App.387a (Statement of Sen. Cassidy) ("national security issues at stake"); App.390a (letter from Rep. Ros-Lehtinen, Rep. Bachus, Rep. King, and Rep. McKeon) (Russian control over uranium supply "could threaten to impair the national security of the United States").

2. The Solicitor General has emphasized to this Court the critical importance of the domestic uranium industry to the United States' economic and national security interests. In urging the Court to review a Federal Circuit decision in favor of foreign uranium distributors in an anti-dumping case, the Solicitor General represented that a reliable domestic uranium

supply was "a matter of compelling importance to U.S. national security interests," since uranium is "used to fuel the government-owned nuclear reactors that produce tritium, a radioactive isotope necessary to maintain the U.S. nuclear arsenal," and – once further enriched – is also used to fuel "the U.S. Navy's nuclear-powered submarines and aircraft carriers." Petition for Writ of Certiorari at 30, *United States v. Eurodif, S.A.*, No. 07-1059 (Feb. 2008), App.347a-48a. Moreover, weakening the domestic uranium industry also "threatens to increase the United States' dependence on foreign energy sources." *Id.* at 31, App.349a. The Court granted certiorari and ultimately reversed the Federal Circuit's ruling in favor of the foreign uranium distributors. *United States v. Eurodif S.A.*, 555 U.S. 305, 322 (2009). It should grant review here, too, for the stakes are no less important.

3. Finally, while the impact of this case on the supply of domestic uranium is alone significant enough to warrant this Court's review, the consequences of the decision below are likely to affect the entire nuclear industry. The approach to AEA preemption adopted by the majority would allow state and local governments to second-guess the NRC's judgments on a broad range of issues related to atomic energy and radiological safety that Congress has committed to its regulatory authority.

Section 2021(k), as interpreted by this Court in *PG&E*, governs the allocation of federal and state authority not only over the uranium industry, but also over every other matter within the NRC's regulatory

ambit – including the construction and operation of nuclear power plants, 42 U.S.C. § 2133, the storage of spent nuclear fuel, *id.* §§ 2073, 2092, 2093, 2111, 2201(b), and the conduct of scientific and medical research into atomic energy and materials, 42 U.S.C. §§ 2051, 2053. This case is not the first – nor is it likely to be the last – in which state or local governments, based on localist concerns or alarmism, seek to frustrate or ban these activities, contrary to the national interest.

Since this Court's decision in *PG&E*, the lower courts have developed an approach to preemption – exemplified by the decisions in *Skull Valley* and *Entergy* – that largely protects the national interest, as superintended by the NRC, against localist interference. *See, e.g.*, *Entergy*, 733 F.3d 393; *Skull Valley*, 376 F.3d 1223; *Missouri v. Westinghouse Elec., LLC*, 487 F. Supp. 2d 1076, 1085-86, 1088 (E.D. Mo. 2007) (consent decree attempting to regulate the radiological safety of nuclear-site decommissioning preempted); *Abraham v. Hodges*, 255 F. Supp. 2d 539, 553 (D.S.C. 2002) (state executive order "prohibiting the transportation of plutonium within South Carolina" preempted); *Northern States Power Co. v. Prairie Island Mdewakanton Sioux Indian Cmty.*, 781 F. Supp. 612, 613 (D. Minn. 1991), *aff'd*, 991 F.2d 458 (8th Cir. 1993) (striking down tribal ordinance regulating the transportation of "various radioactive materials necessary to [a nuclear] power plant's operation to and from the plant"); *United Nuclear Corp. v. Cannon*, 553 F. Supp. 1220, 1224, 1230-32 (D.R.I. 1982) (invalidating state's attempt to impose $10 million

bond requirement on company engaged in radioactive site decommissioning).

The panel majority's ruling upends this equilibrium. Under the approach adopted below, a state or city may freely override the better judgment of the NRC concerning the radiological safety of any activity Congress has authorized that agency to regulate exclusively merely by pretextually regulating a related activity that is facially within the local government's jurisdiction. So long as such a law "does not purport to regulate an activity within the [AEA]'s reach," the Fourth Circuit's holding bars courts from "conduct[ing] a pretext analysis to ascertain [the] legislature's true motive." App.15a, 18a; *but see Skull Valley*, 376 F.3d at 1253. Under the approach adopted below, courts may not "look past the statute's plain meaning to decipher whether the legislature was motivated" by radiological safety concerns. App.14a; *but see Entergy*, 733 F.3d at 416. But Congress has entrusted the NRC alone to make the expert judgments necessary to balance the twin national interests in utilizing atomic energy to advance vital national security and energy policies while at the same time ensuring the "protect[ion of] the health and safety of the public." 42 U.S.C. § 2012(e).

CONCLUSION

For the reasons set forth above, the Court should grant the petition for writ of certiorari.

April 21, 2017

Respectfully submitted,

CHARLES J. COOPER
Counsel of Record
MICHAEL W. KIRK
JOHN D. OHLENDORF
COOPER & KIRK, PLLC
1523 New Hampshire Avenue, N.W.
Washington, D.C. 20036
(202) 220-9600
ccooper@cooperkirk.com

Counsel for Petitioners

APPENDIX

TABLE OF CONTENTS

Page

Opinion of the United States Court of Appeals for the Fourth Circuit, *Virginia Uranium, Inc. v. Warren*, No. 16-1005 (Feb. 17, 2017) 1a

Opinion of the United States District Court for the Western District of Virginia, *Virginia Uranium, Inc. v. McAuliffe*, No. 4:15-cv-31 (Dec. 2, 2015) 53a

Constitutional Provisions and Statutes Involved

U.S. CONST. art. VI, § 2 ..... 83a

42 U.S.C.

§ 2011 ..... 83a

§ 2012 ..... 84a

§ 2013 ..... 85a

§ 2014 ..... 86a

§ 2018 ..... 90a

§ 2021 ..... 90a

§ 2022 ..... 103a

§ 2023 ..... 107a

§ 2091 ..... 107a

§ 2092 ..... 108a

§ 2093 ..... 109a

§ 2094 ..... 110a

§ 2095 ..... 111a

TABLE OF CONTENTS – Continued

Page

§ 2096 ..... 112a

§ 2097 ..... 113a

§ 2099 ..... 113a

§ 2111 ..... 114a

§ 2112 ..... 116a

§ 2113 ..... 118a

§ 2114 ..... 123a

§ 2210b 126a

§ 2210i 130a

§ 2296b 130a

§ 2296b-1 ..... 131a

§ 2296b-2 ..... 123a

§ 2296b-3 ..... 132a

§ 2296b-4 ..... 133a

§ 2296b-6 ..... 134a

§ 2296b-7 ..... 135a

10 C.F.R. Pt. 40, App. A 136a

VA. CODE § 45.1-161.292:30 ..... 168a

VA. CODE § 45.1-181 ..... 168a

VA. CODE § 45.1-283 ..... 169a

Act of Feb. 20, 1981, H.J. Res. 324, 1981 Va. Acts 1404 ..... 169a

TABLE OF CONTENTS – Continued

Page

Act of Apr. 7, 1982, ch. 269, 1982 Va. Acts 426 ..... 170a

Act of Feb. 24, 1983, ch. 3, 1983 Va. Acts 3 ..... 177a

Complaint for Declaratory and Injunctive Relief, *Virginia Uranium, Inc. v. McAuliffe*, No. 4:15-cv-31 (Aug. 5, 2015) 190a

Appendix to Combined Brief in Opposition to Defendants' Motion to Dismiss and in Support of Plaintiffs' Cross-Motion for Summary Judgment, *Virginia Uranium, Inc. v. McAuliffe*, No. 4:15-cv-31 (Sept. 11, 2015) 239a

An Agreement Between the United States Nuclear Regulatory Comm'n and the Commonwealth of Va. for the Discontinuance of Certain Comm'n Regulatory Auth. and Responsibility Within the Commonwealth Pursuant to Section 274 of the Atomic Energy Act of 1954, As Amended (Mar. 18, 2009) 298a

Excerpts from Brief for the United States as Amicus Curiae, *Nielson v. Private Fuel Storage, LLC*, No. 04-575 (U.S. Sept. 2005) 306a

Excerpts from Petition for a Writ of Certiorari, *United States v. Eurodif, S.A.*, No. 07-1059 (U.S. Feb. 2008) 326a

Excerpts from U.S. ENERGY INFO. ADMIN., 2015 URANIUM MKTG. ANNUAL REPORT (2016) 351a

Excerpts from U.S. DEP'T OF ENERGY, EXCESS URANIUM INVENTORY MANAGEMENT PLAN (2013) 354a

TABLE OF CONTENTS – Continued

Page

Excerpts from GOV'T ACCOUNTABILITY OFFICE, EXCESS URANIUM INVENTORIES (2011) 362a

Excerpts from S. REP. NO. 1211 (1946).....372a

Excerpts from *Hearings on H.R. 4280 Before the H. Comm. on Military Affairs*, 79th Cong. (1945).....375a

Excerpts from *Hearing on the Nomination of Rick Perry to be Sec'y of Energy Before the S. Comm. on Energy & Nat'l Res.*, 115th Cong. (2017).....378a

Excerpts from *Hearing on the Nomination of Allison MacFarlane to be Chairman of the Nuclear Regulatory Comm'n Before the S. Comm. on Env't & Pub. Works*, 112th Cong. (2012).....383a

Excerpts from *Hearing on the Administration's Quadrennial Energy Rev. Before the S. Comm. on Energy & Nat. Res.*, 114th Cong. (2015).....386a

Letter from Ileana Ros-Lehtinen, Spencer Bachus, Peter King, & Howard P. McKeon, Members, U.S. House of Representatives, to Timothy F. Geithner, Secretary, U.S. Dep't of the Treasury (Oct. 5, 2010).....390a

James Conca, *America's Navy: The Unsung Heroes of Nuclear Energy*, FORBES (Oct. 28, 2014).....397a

PUBLISHED

UNITED STATES COURT OF APPEALS
FOR THE FOURTH CIRCUIT

No. 16-1005

VIRGINIA URANIUM, INC.; COLES HILL, LLC;
BOWEN MINERALS, LLC;
VIRGINIA ENERGY RESOURCES, INC.,

Plaintiffs-Appellants,

v.

JOHN WARREN, in his official capacity as Director of the Virginia Department of Mines, Minerals and Energy; BRADLEY C. LAMBERT, in his official capacity as Deputy Director of the Virginia Department of Mines, Minerals and Energy; JAMES P. SKORUPA, in his official capacity as Director of the Virginia Department of Mines, Minerals and Energy's Division of Mineral Mining,

Defendants-Appellees,

and

TERRY MCAULIFFE, in his official capacity as Governor of Virginia; MAURICE JONES, in his official capacity as Virginia Secretary of Commerce and Trade; MOLLY J. WARD, in her official capacity as Virginia Secretary of Natural Resources; DAVID K. PAYLOR, in his official capacity as Director of the Virginia Department of Environmental Quality; ROBERT J. WELD, in his official capacity as Regional Director of the Department of Environmental Quality's Blue

Ridge Regional Office; MICHAEL DOWD, in his official capacity as Director of the Virginia Department of Environmental Quality's Air Division; MELANIE D. DAVENPORT, in her official capacity as Director of the Virginia Department of Environmental Quality's Water Permitting Division; JUSTIN WILLIAMS, in his official capacity as Director of the Virginia Department of Environmental Quality's Division of Land Protection and Revitalization,

Defendants.

THE NUCLEAR ENERGY INSTITUTE,

Amicus Curiae,

ROANOKE RIVER BASIN ASSOCIATION;
DAN RIVER BASIN ASSOCIATION,

Amici Supporting Appellees.

Appeal from the United States District Court for the Western District of Virginia, at Danville. Jackson L. Kiser, Senior District Judge. (4:15-cv-00031-JLK-RSB)

Argued: October 28, 2016 Decided: February 17, 2017

Before TRAXLER, DIAZ, and HARRIS, Circuit Judges.

Affirmed by published opinion. Judge Diaz wrote the majority opinion, in which Judge Harris joined. Judge Traxler wrote a dissenting opinion.

ARGUED: Charles J. Cooper, COOPER & KIRK, PLLC, Washington, D.C., for Appellants. Stuart Alan Raphael, OFFICE OF THE ATTORNEY GENERAL OF VIRGINIA, Richmond, Virginia, for Appellees. **ON BRIEF:** Michael W. Kirk, John D. Ohlendorf, COOPER & KIRK, PLLC, Washington, D.C., for Appellants. Mark R. Herring, Attorney General of Virginia, Rhodes B. Ritenour, Deputy Attorney General, Jonathan Duncan Pitchford, Assistant Attorney General, Matthew R. McGuire, Assistant Attorney General, Trevor S. Cox, Deputy Solicitor General, OFFICE OF THE ATTORNEY GENERAL OF VIRGINIA, Richmond, Virginia, for Appellees. William C. Cleveland, Caleb A. Jaffe, SOUTHERN ENVIRONMENTAL LAW CENTER, Charlottesville, Virginia, for Amici Roanoke River Basin Association and Dan River Basin Association. Peter C. Meier, PAUL HASTINGS LLP, San Francisco, California; Ellen C. Ginsberg, Jonathan M. Rund, Anne W. Cottingham, NUCLEAR ENERGY INSTITUTE, Washington, D.C., for Amicus Nuclear Energy Institute.

DIAZ, Circuit Judge:

Virginia Uranium, Inc., Coles Hill, LLC, Bowen Minerals, LLC, and Virginia Energy Resources, Inc. (collectively "Virginia Uranium") appeal the district

court's dismissal of their complaint for failure to state a claim upon which relief can be granted. Because we agree with the district court that federal law does not preempt state regulation of conventional uranium mining, we affirm.

I.

A.

The federal Atomic Energy Act ("AEA" or "Act") regulates several aspects of nuclear power generation in the United States, including "source material" such as uranium. 42 U.S.C. §§ 2011, 2014(z). The Nuclear Regulatory Commission ("NRC") enforces the provisions of the Act. *Id.* §§ 2201, 5801, 5841.

Uranium is the predominant source of fuel for nuclear power plants and fissile material for nuclear warheads. Uranium ore can be recovered from a deposit either through in situ leaching or by conventional mining such as an open-pit or underground mine.[1]

Once removed from the ground, uranium ore is milled into a refined product called "yellowcake." Yellowcake can be used to make nuclear fuel, but the remaining unused material – known as "tailings" – is radioactive and must be stored securely.

---

[1] In situ leaching is a process by which chemicals are pumped through drilled wells into uranium deposits, altering the ore and pumping a uranium solution back to the surface.

B.

In the early 1980s, a uranium deposit was discovered in Pittsylvania County, Virginia on land owned by Coles Hill, LLC and Bowen Minerals, LLC. Containing 119 million pounds of uranium ore, the Coles Hill deposit was then (and remains) the largest known uranium deposit in the United States.

The Virginia General Assembly reacted to this discovery by calling for the state Coal and Energy Commission to "evaluate the environmental effects . . . and any possible detriments to the health, safety, and welfare of Virginia citizens which may result from uranium exploration, mining or milling." 1981 Va. Acts 1404. Before the Commission completed its report, however, the General Assembly imposed a moratorium (or "ban") on uranium mining "until a program for permitting uranium mining is established by statute." Va. Code Ann. § 45.1-283.

The Commission ultimately reported to the Governor and General Assembly in 1985 that the state could lift "the moratorium on uranium development" if it followed "essential specific recommendations . . . of the task force" and enacted laws to tightly regulate the industry. J.A. 534-38. The recommendations included limiting public exposure to radiation, issuing mill and tailings licenses in cooperation with the NRC, and regulating hazardous waste. The benefits of uranium mining in Virginia, the Commission found, "outweighed the costs 26 to 1." J.A. 543. Despite the Commission's

recommendation, the General Assembly did not move to lift the moratorium.

In January 2013, Virginia State Senators John Watkins and Richard Saslaw sponsored a bill to create a licensing scheme for the issuance of uranium mining permits. The bill was never voted on, and was later withdrawn. To date, no such program has been established, and the ban remains in effect.

Stymied in its efforts to mine the Coles Hill deposit, Virginia Uranium brought suit in the United States District Court for the Western District of Virginia, asking the court to declare the ban preempted by federal law and issue an injunction compelling the Commonwealth to grant uranium mining permits.

The Defendant Commonwealth of Virginia officials (collectively the "Commonwealth") moved to dismiss the Plaintiffs' complaint, and Virginia Uranium moved for summary judgment. The district court granted the Commonwealth's motion and dismissed the complaint. The court found that federal law (specifically the Atomic Energy Act) "does not . . . regulate nonfederal uranium deposits or their conventional mining." *Virginia Uranium, Inc. v. McAuliffe*, 147 F. Supp. 3d 462, 471 (W.D. Va. 2015). Finding that the Act does not commit conventional uranium mining to the NRC's authority, the district court distinguished the instant case from Supreme Court precedent requiring states to have a non-safety rationale to regulate activities within the NRC's purview. The district court further held that Virginia's ban "does not obstruct the

realization of Congress' purposes and objectives behind the [Act]" because Congress "evinced no purpose or objective that nonfederal uranium deposits be conventionally mined." *Id.* at 477.

This appeal followed.

II.

We review de novo the district court's conclusion that the Atomic Energy Act does not preempt Virginia's ban on uranium mining. *Epps v. JP Morgan Chase Bank, N.A.*, 675 F.3d 315, 320 (4th Cir. 2012). State laws may be preempted by federal law under the Supremacy Clause, which provides that "[t]his Constitution, and the Laws of the United States which shall be made in Pursuance thereof . . . shall be the supreme Law of the Land; and the Judges in every State shall be bound thereby, any Thing in the Constitution or Laws of any State to the Contrary notwithstanding." U.S. Const. art. VI, cl. 2.

"[T]he first and fundamental question in any preemption analysis is whether Congress intended to displace state law. . . ." *Wardair Canada, Inc. v. Fla. Dep't of Revenue*, 477 U.S. 1, 6 (1986). Congressional intent to "supercede state law . . . may be found from a scheme of federal regulation so pervasive as to make reasonable the inference that Congress left no room to supplement it," otherwise known as "field" preemption. *Pacific Gas & Elec. Co. v. State Energy Resources Conservation & Dev. Comm'n*, 461 U.S. 190, 203-04 (1983) (internal quotation marks omitted). State law may also

be preempted as in "conflict" with federal law when it "stands as an obstacle to the accomplishment and execution of the full purposes and objectives of Congress." *Id.* at 204 (citing *Hines v. Davidowitz*, 312 U.S. 52, 67 (1941)).

Virginia Uranium offers three reasons why the Atomic Energy Act preempts Virginia's ban on uranium mining. First, it urges that conventional uranium mining is an "activity" under Section 2021(k) of the Act and that the Commonwealth therefore may not regulate it out of concern for radiological safety. Second, it contends that even if uranium mining is not a regulated "activity" under the Act, uranium-ore milling and tailings storage are regulated activities, and because the Virginia legislature intended to and does regulate those activities, the ban is therefore preempted. Finally, Virginia Uranium says that the ban is preempted because it's an obstacle to the full implementation of the Act's objectives. We address these arguments in turn.

A.

We begin with Virginia Uranium's claim that conventional uranium mining is an "activity" under Section 2021(k) of the Atomic Energy Act, which in turn means that states can't regulate such mining for the purpose of protecting against radiation hazards. Section 2021 of the Act, entitled "Cooperation with States," outlines "the respective responsibilities . . . of the States and the [Nuclear Regulatory] Commission with

respect to the regulation of byproduct, source, and special nuclear materials." 42 U.S.C. § 2021(a). Subsection (k) reserves to the states the right to "regulate activities for purposes other than protection against radiation hazards." *Id.* § 2021(k).

In *Pacific Gas*, the Supreme Court interpreted this provision as establishing the bounds of the Act's preemptive reach. Specifically, the Court instructed that "the test of pre-emption is whether the matter on which the state asserts the right to act is in any way regulated by the federal government." *Pacific Gas*, 461 U.S. at 213 (internal citations omitted). If a state purports to regulate an activity that is also regulated by the Act, a court must "determine whether there is a non-safety rationale" for the state rule. *Id.* If there is not, then the state law is preempted.

The Court in *Pacific Gas* addressed California regulations imposing conditions on the construction of new nuclear power plants in the state. Utilities seeking to construct nuclear plants in California had to obtain permission from the State Energy Resources and Conservation Commission. *Id.* at 197. But the Commission would only grant a permit to build if it determined that there was "adequate capacity" for storage of spent fuel rods and that the utility would provide "continuous, on-site, full core reserve storage capacity." *Id.* at 197-98 (internal quotation marks omitted). In passing these regulations, the California legislature denied that they were "designed to provide protection against radiation hazards" but instead were "adopted because 'uncertainties in the nuclear fuel cycle [made] nuclear

power an uneconomical and uncertain source of energy.'" *Id.* at 199-200.

The California regulations, the Court held, fell "squarely within the prohibited field." *Id.* at 213.[2] After considering arguments for why the regulations might have been enacted for safety (as opposed to economic) reasons, the Court opted against "attempting to ascertain California's true motive" and instead "accept[ed] California's avowed economic purpose." *Id.* at 216. Because the regulations had a non-safety rationale, the Atomic Energy Act did not preempt them. *Id.*

Here, the Commonwealth concedes that it lacks a non-safety rationale for banning uranium mining but says that Section 2021(k) does not apply to the ban because conventional uranium mining isn't an activity regulated by the NRC. To test this contention, we assess whether the term "activities" within Section 2021(k) of the Act encompasses all activities states may regulate or merely, as the Commonwealth contends, "activities regulated by the [Nuclear Regulatory] Commission." Appellees' Br. at 35.

The Supreme Court addressed this precise question in *Pacific Gas* and sided with the limited reading of Section 2021(k) pressed by the Commonwealth here. As we noted earlier, there, the Court explained that

---

[2] As the district court in the instant case noted when discussing *Pacific Gas*, the construction of a nuclear power plant is an activity "clearly committed to the NRC's regulatory authority." *Virginia Uranium*, 147 F. Supp. 3d at 476 (citing 42 U.S.C. § 2021(c)(1)).

"the federal government has occupied the entire field of nuclear safety concerns," but the bounds of that field are measured by looking to whether "the matter on which the state asserts the right to act is in any way regulated by the federal government." *Pacific Gas*, 461 U.S. at 212-13 (internal citations omitted); *see also id.* at 209-10 ("[S]ection [2021] was not intended to cutback on pre-existing state authority outside the NRC's jurisdiction."). Section 2021(k) therefore prohibits states from regulating, for safety reasons, activities that are "in any way regulated" by the federal government under the Atomic Energy Act. We agree with the district court that conventional uranium mining is not such an activity.

The Act explicitly grants the NRC authority to regulate uranium mining on federal lands, but it says nothing about the Commission's power to regulate conventional uranium mining elsewhere. 42 U.S.C. § 2097. Section 2092 of the Act requires individuals to obtain an NRC license to "transfer, deliver, [or] receive possession of . . . any source material *after removal from its place of deposit in nature*." 42 U.S.C. § 2092 (emphasis added). Importantly, the NRC reads this provision as "precluding [Commission] jurisdiction over uranium mining." *In re. Hydro Resources, Inc.*, 63 N.R.C. 510, 512-13 (2006). Similarly, the NRC justifies regulating in situ mining by describing the method as "processing" uranium, over which the Commission has authority. *Id.*

When Congress has not "directly spoken to the precise question at issue," we defer to a federal

power an uneconomical and uncertain source of energy.'" *Id.* at 199-200.

The California regulations, the Court held, fell "squarely within the prohibited field." *Id.* at 213.[2] After considering arguments for why the regulations might have been enacted for safety (as opposed to economic) reasons, the Court opted against "attempting to ascertain California's true motive" and instead "accept[ed] California's avowed economic purpose." *Id.* at 216. Because the regulations had a non-safety rationale, the Atomic Energy Act did not preempt them. *Id.*

Here, the Commonwealth concedes that it lacks a non-safety rationale for banning uranium mining but says that Section 2021(k) does not apply to the ban because conventional uranium mining isn't an activity regulated by the NRC. To test this contention, we assess whether the term "activities" within Section 2021(k) of the Act encompasses all activities states may regulate or merely, as the Commonwealth contends, "activities regulated by the [Nuclear Regulatory] Commission." Appellees' Br. at 35.

The Supreme Court addressed this precise question in *Pacific Gas* and sided with the limited reading of Section 2021(k) pressed by the Commonwealth here. As we noted earlier, there, the Court explained that

---

[2] As the district court in the instant case noted when discussing *Pacific Gas*, the construction of a nuclear power plant is an activity "clearly committed to the NRC's regulatory authority." *Virginia Uranium*, 147 F. Supp. 3d at 476 (citing 42 U.S.C. § 2021(c)(1)).

"the federal government has occupied the entire field of nuclear safety concerns," but the bounds of that field are measured by looking to whether "the matter on which the state asserts the right to act is in any way regulated by the federal government." *Pacific Gas*, 461 U.S. at 212-13 (internal citations omitted); *see also id.* at 209-10 ("[S]ection [2021] was not intended to cutback on pre-existing state authority outside the NRC's jurisdiction."). Section 2021(k) therefore prohibits states from regulating, for safety reasons, activities that are "in any way regulated" by the federal government under the Atomic Energy Act. We agree with the district court that conventional uranium mining is not such an activity.

The Act explicitly grants the NRC authority to regulate uranium mining on federal lands, but it says nothing about the Commission's power to regulate conventional uranium mining elsewhere. 42 U.S.C. § 2097. Section 2092 of the Act requires individuals to obtain an NRC license to "transfer, deliver, [or] receive possession of . . . any source material *after removal from its place of deposit in nature*." 42 U.S.C. § 2092 (emphasis added). Importantly, the NRC reads this provision as "precluding [Commission] jurisdiction over uranium mining." *In re. Hydro Resources, Inc.*, 63 N.R.C. 510, 512-13 (2006). Similarly, the NRC justifies regulating in situ mining by describing the method as "processing" uranium, over which the Commission has authority. *Id.*

When Congress has not "directly spoken to the precise question at issue," we defer to a federal

agency's reasonable interpretation of a congressional act that the agency is charged with administering. *Nat'l Labor Relations Bd. v. Bluefield Hosp. Co.*, 821 F.3d 534, 542 (4th Cir. 2016) (citing *Chevron, U.S.A., Inc. v. Natural Res. Def. Council*, 467 U.S. 837, 842-44 (1984)). The Atomic Energy Act grants the NRC authority to enforce and promulgate rules under the Act. 42 U.S.C. § 2201. Federal law is silent on conventional uranium mining outside of federal lands, and the NRC reads this gap in the Act's language to mean that the Commission lacks the power to regulate it.

This interpretation is reasonable in the context of the Act. Congress explicitly gave the NRC power to regulate conventional uranium mining on federal lands and to govern what happens to source material "*after* its removal from its place of deposit in nature." *Id.* §§ 2902, 2907 (emphasis added). We think it logical to assume that, by expressly granting the NRC some authority over source material, Congress did not intend to implicitly grant broader authority. *See Barnhart v. Peabody Coal Co.*, 537 U.S. 149, 168 (2003) (explaining that the canon of *expressio unius est exclusio alterius* may apply where "it is fair to suppose that Congress considered the unnamed possibility and meant to say no to it").

Additionally, the power to regulate mining – including uranium mining – has traditionally been reserved to the states. *See In re Hydro Resources*, 63 N.R.C. at 513. We assume that is where it remains unless Congress evinces a "clear and manifest purpose" to supersede "the historic police powers of the States."

Wyeth v. Levine, 555 U.S. 555, 565 (2009) (quoting *Medtronic, Inc. v. Lohr*, 518 U.S. 470, 485 (1996)). Nothing in the AEA indicates that Congress meant for the NRC to displace the states in regulating conventional uranium mining – the Act is silent on the matter.

Indeed, accepting Virginia Uranium's more expansive reading of Section 2021(k)'s preemptive reach would mean that entities could mine free of government oversight. The states could not regulate and, on the NRC's (reasonable) view of the Act, it too would be a passive spectator. That cannot be the law. Rather, because conventional uranium mining outside of federal lands is beyond the regulatory ambit of the Nuclear Regulatory Commission, it is not an "activity" under Section 2021(k) of the Act. As a result, the district court was correct to hold that Virginia's ban on conventional uranium mining is not preempted.

B.

Virginia Uranium next contends that, even if conventional uranium mining is not an "activity" under Section 2021(k) of the Act, uranium-ore milling and tailings storage are such activities. Because the ban, according to Virginia Uranium, impermissibly attempts to regulate and has the effect of prohibiting those activities for nuclear safety reasons, it is preempted.

We agree that uranium milling and tailings storage are "activities" under Section 2021(k) because they are regulated by the NRC, and states may therefore

not regulate them except for purposes other than protection against radiation hazards. *See* 42 U.S.C. §§ 2021, 5842, 7918-19; 10 C.F.R. § 40.3; *see also* supra Part II.A. But the plain language of the Commonwealth's ban does not mention uranium milling or tailings storage. Va. Code Ann. § 45.1-283 ("[P]ermit applications for uranium mining shall not be accepted by any agency of the Commonwealth. . . .").

In the face of this telling omission, Virginia Uranium argues that no one "would *want* to undertake the pointless expense of constructing a mill and tailings-management complex in Virginia and transporting out-of-state uranium [ore] into the Commonwealth." Reply Br. at 20. Given this economic reality, Virginia Uranium urges us to look past the statute's plain meaning to decipher whether the legislature was motivated to pass the ban by a desire to regulate uranium milling or tailings storage. We decline the invitation.

In *Pacific Gas*, the Court warned against the "unsatisfactory venture" of "inquiry into legislative motive." 461 U.S. at 216 (citing *United States v. O'Brien*, 391 U.S. 367, 383 (1968)). The Court reasoned that, when dealing with provisions such as Section 2021(k) that allow states to enact laws for some purposes but not others, it is "pointless" for courts to invalidate statutes that may then be reenacted with a different motive. *Id.* Rather, "it should be up to Congress to determine whether a State has misused the authority left in its hands." *Id.* And even if motive inquiry were useful, the Court noted that legislative intent is often impossible to discern because "[w]hat motivates one

legislator to vote for a statute is not necessarily what motivates scores of others to enact it." *Id.*

There are some areas of law – such as actions arising under the Equal Protection Clause of the Fourteenth Amendment – where a legislature's improper motive *itself* is cause for courts to find a law unconstitutional. In those cases, we may conduct a pretext analysis to ascertain a legislature's true motive. *See, e.g. United States v. Windsor*, 133 S. Ct. 2675, 2693 (2013) (striking down an act of Congress because it was "motived by an improper animus"); *North Carolina State Conference of NAACP v. McCrory*, 831 F.3d 204, 220 (4th Cir. 2016) (A law is invalid under the Equal Protection Clause if a "discriminatory purpose was . . . a motivating factor" or if "the legislature enact[ed] a law 'because of,' and not 'in spite of,' its discriminatory effect." (internal citations omitted)). We do so in those contexts because a more searching scrutiny of legislative intent is needed in order to avoid the "circumventi[on] [of] a federally protected right." *Gomillion v. Lightfoot*, 364 U.S. 339, 347 (1960).

But this is not such a case. Because Virginia Uranium does not allege that the Virginia legislature acted with discriminatory intent, we adhere to the edict that courts "will not strike down an otherwise constitutional statute on the basis of an alleged illicit legislative motive," and we decline to examine why the Commonwealth chose to ban uranium mining, which it was plainly allowed to do. *O'Brien*, 391 U.S. at 383.

Virginia Uranium urges us to follow the paths forged by our sister circuits in *Skull Valley Band of Goshute Indians v. Nielson*, 376 F.3d 1223 (10th Cir. 2004), and *Entergy Nuclear Vermont Yankee, LLC v. Shumlin*, 733 F.3d 393 (2d Cir. 2013). While the courts there did strike down state laws as preempted under the AEA, the cases are distinguishable.

In *Skull Valley*, Plaintiffs challenged a host of Utah laws that, while facially within the state's police powers, surgically targeted the transportation and storage of spent nuclear fuel. 376 F.3d at 1228-30. Spent nuclear fuel storage, the Tenth Circuit found, is an activity regulated by the NRC. *Id.* at 1242. Moreover, unlike Virginia's ban on mining, all but two of the challenged Utah laws specifically mentioned this NRC-regulated activity. *Id.* at 1245-51, 1253-54.

One subset of changes to Utah's laws purported to focus solely on transportation by designating certain local roads near the site of a proposed spent nuclear fuel storage facility as "statewide public safety interest highways" and turning control over them to the state. *Id.* at 1251-52. But even this change in the law was packaged with two other transportation regulations targeting spent nuclear fuel directly. The first called for state resolution of "disputes arising out of the request to construct a railroad crossing made by an entity engaged in [spent nuclear fuel] storage and transportation," and the second required the "consent of the governor and the state legislature before the Department of Transportation [could] grant a right of

way to a company engaged in the transportation or storage of [spent nuclear fuel]." *Id.*

Not surprisingly, the Tenth Circuit felt no need to engage in the sort of pretext analysis that Virginia Uranium presses here to hold that Utah was purporting to govern an NRC-regulated activity. Indeed, the Commonwealth's two-sentence moratorium on uranium mining (an activity not regulated by the NRC) pales in comparison to Utah's comprehensive scheme intended to keep spent nuclear fuel out of the state by any means.

The Second Circuit's decision in *Entergy*, on the other hand, is a straightforward application of *Pacific Gas*. Vermont law required the "explicit approval of the General Assembly" in order to operate a nuclear energy plant within the state. *Entergy*, 733 F.3d at 403. The Second Circuit sought to determine the Vermont legislature's intent only after holding that the challenged law regulated an "activity" – the operation of nuclear power plants – within the meaning of Section 2021(k) of the Atomic Energy Act. *Id.* at 415. Applying *Pacific Gas*, it was then the court's duty to determine whether the state was "impermissibl[y] motiv[ated]" by nuclear safety concerns. *Id.* at 418-19.

The Second Circuit held that "the Vermont Legislature was improperly motivated by concerns relating to radiological safety in enacting" the challenged law, and therefore, the statute was "preempted on its face by the Atomic Energy Act." *Id.* at 422. In contrast, the

Commonwealth's mining ban does not purport to regulate an activity within the Act's reach, and thus we need proceed no further.

C.

Finally, Virginia Uranium contends that the Commonwealth's ban on conventional mining is preempted as an obstacle to the full implementation of the objectives of the Atomic Energy Act. We will find state laws preempted as in conflict with federal law if the state law "stands as an obstacle to the accomplishment and execution of the full purposes and objectives of Congress." *Hines v. Davidowitz*, 312 U.S. 52, 67 (1941). But we do not easily find preemption; rather we start with "the assumption that the historic police powers of the States [are not] superseded by [Federal law] unless that was the clear and manifest purpose of Congress." *Wyeth*, 555 U.S. at 565 (quoting *Medtronic*, 518 U.S. at 485).

Determining whether a state law "stands as an obstacle" to federal law is a two-step process. First, we determine Congress's "significant objective[s]" in passing the federal law. *Williamson v. Mazda Motor of America, Inc.*, 562 U.S. 323, 330 (2011). We then turn to whether the state law stands "as an obstacle to the accomplishment of a significant federal regulatory objective." *Id.* (internal citations omitted).

Here, the parties do not dispute the Atomic Energy Act's stated purpose of promoting the safe development and use of atomic energy. 42 U.S.C. § 2012; *see*

also Pacific Gas, 461 U.S. at 221 ("There is little doubt that a primary purpose of the [Act] was, and continues to be, the promotion of nuclear power."). Virginia Uranium claims that the Commonwealth has created an obstacle to that Congressional purpose by banning uranium mining outright. It asks us to "imagine what would become of Congress's desire to encourage the development and use of uranium if *all 50 states* enacted similar legislation." Appellants' Br. at 56.

In fact, this hypothetical nationwide web of mining bans would have little effect. Why? For starters, over ninety percent of the uranium used by the country's atomic-energy industry is imported, so state bans on domestic production would have negligible effect. Moreover, as of 2015, eighteen domestic uranium recovery facilities – those that either use in situ leaching or are located on federal lands – are licensed by the NRC and thus beyond the reach of any state bans. Finally, if push comes to shove, the Atomic Energy Act allows the federal government to forcibly expand the production of domestic source material: The NRC may "purchase, condemn, or otherwise acquire . . . real property containing deposits of source material." 42 U.S.C. § 2096. In sum, Congress's purposes and objectives in passing the Act are not materially affected by the Commonwealth's ban on conventional uranium mining. The district court properly dismissed this case.

III.

For the reasons given, we affirm the district court's judgment.

AFFIRMED

TRAXLER, Circuit Judge, dissenting:

At issue in this case is Virginia's right to ban the mining of uranium because of radiological safety concerns regarding uranium milling and tailings management. While Virginia's apprehension is certainly understandable, in my view Congress has taken away a state's ability to limit mining for this particular reason.

Under the federal Atomic Energy Act of 1954 (the "Act" or the "AEA"), *see* 42 U.S.C. § 2011 *et seq.*, as amended, the federal government assumed responsibility for establishing a regime to make the development of nuclear energy safe enough that the powerful forces of the private sector could be unleashed to develop that energy to the maximum extent possible. The Supreme Court in *Pacific Gas* held that Congress intended that the federal government would *exclusively* occupy the field of radiological safety concerns regarding the activities the Act regulates and, indeed, that this exclusivity is central to the Act's objectives. If Virginia sought to limit the occurrence of AEA-regulated activities based on its own radiological safety concerns – and Virginia has not disputed that it did – that action

represents a clear encroachment into the preempted field.

Virginia's foray into this prohibited field would also thwart the Act's objectives. The AEA allows states to assume limited aspects of the authority of the Nuclear Regulatory Commission ("NRC"), but only if the NRC has approved the state's regulatory program, and Virginia has not obtained any authority to regulate uranium mining or tailings management. By refusing to respect the regulatory regime the NRC established regarding these activities, and by instead unilaterally attempting, based on its own safety concerns, to prevent the occurrence of these very activities that Congress was attempting to support, Virginia has frustrated Congress's objectives.

For both of these reasons, I believe that the district court erred in dismissing this action, and I respectfully dissent from the majority's contrary disposition.

I.

A.[1]

The stakes in this case are significant. Uranium is the predominant fuel source for nuclear power plants, which, in 2015, produced approximately 20% of our country's electricity. *See U.S. Energy Information Administration/Frequently Asked Questions*, https://www.

---

[1] On review of the grant of a motion by the defendants to dismiss for failure to state a claim, we view the allegations in the complaint in the light most favorable to the plaintiffs.

eia.gov/tools/faqs/faq.cfm?id=427&t=3 (last visited, Jan. 20, 2017) (saved as ECF opinion attachment). In 2015, approximately 94% of the uranium used in those plants was imported. *See U.S. Energy Information Administration/Nuclear & Uranium/Uranium Marketing Annual Report*, http://www.eia.gov/uranium/marketing (last visited, Jan. 20, 2017) (saved as ECF opinion attachment). Uranium is also the fissile material used for nuclear warheads.

The Coles Hill uranium deposit is the largest natural deposit of uranium in the United States and one of the largest in the world. The deposit, discovered in the early 1980s, includes approximately 119 million pounds of uranium ore, worth between $5 and $6 billion. Coles Hill, LLC, and Bowen Minerals, LLC, own the land above the deposit. Although they retain a royalty interest, they lease the mineral estate to Virginia Uranium, which is owned by Virginia Energy Resources.

In light of the Coles Hill deposit's geological properties, the uranium there would likely need to be extracted by conventional mining.[2] Once mined, the

---

[2] In situ leaching is another method of extracting uranium from the ground. That process "involves leaving the ore where it is in the ground, and recovering the minerals from it by dissolving them and pumping the pregnant solution to the surface where the minerals can be recovered. Consequently there is little surface disturbance and no tailings or waste rock generated." *World Nuclear Association/Information Library/Nuclear Fuel Cycle/Mining of Uranium/In Situ Leach Mining of Uranium*, http://www.world-nuclear.org/information-library/nuclear-fuel-cycle/mining-of-uranium/in-situ-leach-mining-of-uranium.aspx (last visited Jan.

uranium would need to be milled into usable form. Typically, this occurs at the mining site. A mill grinds the ore into sand, which in turn is run through an acidic or alkaline solution to separate the uranium from the waste, or "tailings." The uranium is then concentrated and dried into "yellowcake," the final product that is commercially sold and shipped off-site for enrichment. Because the tailings continue to have most of their naturally occurring radioactivity, they would need to be stored securely in order to prevent any radioactive materials from escaping into the environment.

B.

The federal government first authorized civilian application of atomic power with the Atomic Energy Act of 1946 (the "1946 Act"). *See Pacific Gas & Elec. Co. v. State Energy Res. Conservation & Dev. Comm'n* ("*Pacific Gas*"), 461 U.S. 190, 206 (1983). Under the 1946 Act, the federal government possessed a monopoly on nuclear technology. *See English v. General Elec. Co.*, 496 U.S. 72, 80 (1990).

20, 2017). Critically, however, for uranium to be obtained from the land by that method, "the orebody needs to be permeable to the liquids used, and located so that they do not contaminate groundwater away from the orebody." *Id.* And "[b]ecause of the geology in the Commonwealth of Virginia, it is very unlikely that [in situ recovery] can be used to extract uranium" from the Coles Hill deposit or anywhere else in Virginia. J.A. 209; *see* J.A. 230 (similar).

In 1954, the AEA replaced the 1946 Act and marked the beginning of private development of nuclear power. The AEA "stemmed from Congress' belief that the national interest would be served if the Government encouraged the private sector to develop atomic energy for peaceful purposes under a program of federal regulation and licensing." *Id.* at 81. Indeed, the Act itself states that its goal is "to encourage widespread participation in the development and utilization of atomic energy for peaceful purposes *to the maximum extent* consistent with the common defense and security and with the health and safety of the public." 42 U.S.C. § 2013(d) (emphasis added). To this end, the Act was designed "to insure that nuclear technology [would] be safe enough for [such] widespread development and use." *Pacific Gas*, 461 U.S. at 213.

Under the AEA, Congress gave the Atomic Energy Commission ("AEC") – now the NRC[3] – "exclusive authority to license the transfer, delivery, receipt, acquisition, possession, and use of all nuclear materials." *English*, 496 U.S. at 81. The Act specifically provides that anyone wishing to "transfer or receive in interstate commerce, manufacture, produce, transfer, acquire, own, possess, import, or export" any radioactive "byproduct material" – a term now defined to include

---

[3] In 1974, Congress enacted the Energy Reorganization Act, which abolished the AEC and transferred its licensing and regulatory responsibilities to the NRC. *See Duke Power Co. v. Carolina Envtl. Study Grp., Inc.*, 438 U.S. 59, 63 n.1 (1978); 42 U.S.C. §§ 5801(c), 5814. This legislation "also expanded the number and range of safety responsibilities under the NRC's charge." *English v. General Elec. Co.*, 496 U.S. 72, 81 (1990).

"the tailings or wastes produced by the extraction or concentration of uranium" – is required to obtain a license from the NRC.[4] 42 U.S.C. §§ 2111(a), 2014(e)(2); *see* 42 U.S.C. § 2111(b). Pursuant to these statutes, the NRC has promulgated detailed regulations designed to ensure the radiological safety of uranium milling and tailings management.[5] *See* 10 C.F.R. Pt. 40, App. A.

In 1959, Congress amended the Act to allow states to assume limited aspects of the NRC's regulatory authority if certain conditions are satisfied. *See English*, 496 U.S. at 81. Specifically, the NRC may "enter into agreements with the Governor of any State" in order "to regulate the materials covered by th agreement for the protection of the public health and safety from radiation hazards." 42 U.S.C. §§ 2021(b). However, the NRC may enter into such an agreement only after ensuring that the state's program is "compatible" with

---

[4] The Act's original language did not specifically include uranium tailings within the commission's licensable jurisdiction. However, the Uranium Mill Tailings Radiation Control Act of 1978 (the "UMTRCA") added uranium tailings to the definition of "byproduct material" in order to "clarif[y]" and "reinforce[]" the NRC's authority over operating mills' production and disposal of such tailings. H.R. Rep. No. 95-1480, at 13 (1978); *see* Pub. L. No. 95-604, 92 Stat. 3021.

[5] The Act did not seek to regulate conventional uranium mining on nonfederal lands, apparently because Congress did not perceive that the mining itself posed serious radiological risks and Congress recognized the necessity of encouraging independent prospecting. *See* S. Rep. No. 79-1211, at 18-19 (1946); *see also* Atomic Energy: Hearings Before the Committee on Military Affairs on H.R. 4280, 79th Cong. 125 (1945) (testimony that uranium is not dangerous "itself, without applying to it some industrial process").

the otherwise applicable federal regulations and "is adequate to protect the public health and safety with respect to the materials covered by the . . . agreement." 42 U.S.C. § 2021(d)(2).

In 2009, Virginia entered into a limited agreement with the NRC, under which Virginia would assume the authority to regulate the radiological hazards of "source material" – which includes uranium and uranium ore – and most byproduct material. 74 Fed. Reg. 14821, 14822-23 (Apr. 1, 2009). However, the agreement explicitly excluded uranium tailings. *See id.*; 42 U.S.C. § 2014(e)(2). Thus, the NRC retained exclusive authority to regulate the radiological dangers pertaining to uranium milling and tailings management.

C.

In 1982, soon after the discovery of the Coles Hill deposit, the Virginia legislature imposed an emergency moratorium on uranium mining and subsequently extended the emergency moratorium into an indefinite ban. *See* Va. Code § 45.1-283.[6] Although the ban nominally addresses uranium *mining*, in actuality, it was

---

[6] Virginia requires anyone wishing to engage in mineral mining in the state to obtain a mining permit from the Department of Mines, Minerals and Energy. *See* Va. Code § 45.1-181. Additionally, to operate a mineral mine in Virginia, one must first obtain a Mine Safety permit. *See* Va. Code § 45.1-161.292:30. Virginia's initial, emergency moratorium prohibited any agency from accepting permit applications for uranium mining prior to July 1, 1983. *See* 1982 Va. Acts ch. 269. And, the extension continued that

concerns of the radiological safety of uranium *milling* and *tailings management* that motivated the legislature to act.[7] The legislature banned uranium mining only as a means to prevent milling and tailings management from occurring in Virginia.

The legislature considered lifting the ban between 2008 and 2013 but ultimately decided against doing so.

D.

Virginia Uranium, Inc., Coles Hill, LLC, Bowen Materials, LLC, and Virginia Energy Resources, Inc. (collectively, "Virginia Uranium") filed this suit for declaratory and injunctive relief against several governmental defendants (collectively, "the Commonwealth"). Virginia Uranium alleges that the AEA preempts Virginia's ban under two theories. First, it claims that, by enacting the AEA, Congress intended that the federal government would exclusively occupy the field of radiological safety concerns regarding the activities the AEA regulates. Virginia Uranium claims that the mining ban is grounded primarily in Virginia's radiological safety concerns regarding two such activities: the milling of the uranium that would be mined in Virginia if mining were permitted, and the storage of the tailings that would result. In light of this purpose of protecting

---

restriction "until a program for permitting uranium mining is established by statute." 1983 Va. Acts ch. 3, Va. Code § 45.1-283. No such program has yet been established.

[7] The primary concern was that uranium tailings could contaminate the drinking water supply.

against the radiological dangers associated with these two AEA-regulated activities, Virginia Uranium maintains that Virginia's ban encroaches upon the very field that Congress intended the federal government to occupy exclusively.

Second, Virginia Uranium contends that the mining ban does not respect the balance Congress struck regarding the objectives of promoting uranium development and ensuring health, safety, and environmental protection. Virginia Uranium maintains that the Act contemplates that uranium development will not be barred on the basis of concerns regarding the radiological dangers of regulated activities, so long as the federal regulations applying to those activities are satisfied. Virginia Uranium alleges that Virginia's uranium mining ban effectively operates as a ban on storing uranium tailings even though Virginia does not have the federal government's permission to regulate that activity. Thus, Virginia Uranium claims that the ban is preempted as an obstacle to the full implementation of the Act's objectives.[8]

Virginia Uranium seeks a declaration that the AEA preempts Va. Code § 45.1-283. It also requests an injunction forbidding the Commonwealth from adhering to § 45.1-283 and requiring it to process permit applications for uranium mining. The Commonwealth

---

[8] Virginia Uranium also alleges that it is "physically impossible to develop uranium in Virginia and simultaneously comply with both federal law, which regulates but allows the storing of uranium tailings, and Virginia's law, which effectively bans storing uranium tailings." J.A. 47.

moved to dismiss the complaint for failure to state a claim. *See* Fed. R. Civ. P. 12(b)(6). The Commonwealth did not then – and does not now – dispute Virginia Uranium's allegation that § 45.1-283 is actually grounded in the legislature's radiological safety concerns regarding uranium milling and uranium tailings management.[9] Nor has it ever disputed that uranium milling and tailings management are activities that the Act regulates. Nevertheless, it argued that because § 45.1-283 does not *directly prevent those activities* but only *directly* bans uranium *mining* – albeit as a means of preventing the AEA-regulated activities – the ban is not preempted.

Virginia Uranium opposed the Commonwealth's motion to dismiss and filed a cross-motion for summary judgment, attaching hundreds of pages of materials that Virginia Uranium maintained demonstrated, as a matter of law, that Virginia's ban on mining was a pretext for its true goal of preventing uranium milling and tailings management.

The district court granted the Commonwealth's motion, ruling that the ban is not preempted even assuming that the Virginia legislature's actual purpose

---

[9] The Commonwealth acknowledges that it "conceded the truth of [Virginia Uranium's] claims about legislative motive . . . for purposes of their Rule 12(b)(6) motion." Appellees' brief at 15 n.58. It argues, however, that its concession did not extend beyond the motion to dismiss and that had that motion "not been granted, the district judge would have had discretion to give [the Commonwealth] 'an opportunity to properly . . . address the facts' asserted by [Virginia Uranium]." *Id.* (quoting Fed. R. Civ. P. 56(e)(1)).

was to protect against the radiological dangers associated with uranium milling and tailings management. *See Virginia Uranium, Inc. v. McAuliffe*, 147 F. Supp. 3d 462 (W.D. Va. 2015). The district court reasoned that because the AEA does not regulate conventional mining of uranium ore on nonfederal lands, Virginia was free to ban uranium ore mining *as a means of preventing* uranium milling and tailings management, in order to avoid the radiological dangers associated with those AEA-regulated activities. *See id.* at 471-77. Thus, the court concluded that the ban did not encroach upon the field reserved exclusively for the federal government. *See id.*

For similar reasons, the court also concluded that the ban was not preempted under the doctrine of conflict preemption because it did not frustrate "the accomplishment and execution of the full purposes and objectives of Congress" regarding the "promotion of nuclear power." *Id.* at 477 (internal quotation marks omitted). In this regard, the court reasoned primarily that the Act "evinced no purpose or objective that nonfederal uranium deposits should be conventionally mined."[10] *Id.* And the court suggested that the federal government was free to condemn the property if it wished to have the uranium therein conventionally

---

[10] The court further concluded that the ban did not "conflict [] with Congress' judgment that [on-site milling and mill-tailings management] may proceed." *Virginia Uranium, Inc. v. McAuliffe*, 147 F. Supp. 3d 462, 477 (W.D. Va. 2015). The court also rejected Virginia Uranium's claim that it was impossible for Virginia Uranium to comply with both the AEA and the Virginia ban. *See id.* at 477 n.18.

mined. *See id.* at 477 n.20 The court also determined that Virginia did not circumvent the requirements Congress put in place for states to assume regulation of uranium milling and tailings management because Virginia's statute did not purport to regulate those activities. *See id.* at 472-73, 477 n.19.

Having decided to dismiss the action, the court denied as moot Virginia Uranium's summary judgment motion. *See id.* at 478.

II.

Virginia Uranium argues that the district court erred in dismissing its action. I agree.

A.

We review de novo the grant of a motion to dismiss for failure to state a claim. *See U.S. Airline Pilots Ass'n v. Awappa, LLC*, 615 F.3d 312, 317 (4th Cir. 2010). In so doing, "we must accept as true all of the factual allegations contained in the complaint." *Anderson v. Sara Lee Corp.*, 508 F.3d 181, 188 (4th Cir. 2007) (internal quotation marks omitted). To survive dismissal, the complaint must contain "enough facts to state a claim to relief that is plausible on its face." *Bell Atl. Corp. v. Twombly*, 550 U.S. 544, 570 (2007).

Under the Supremacy Clause, "the Laws of the United States . . . shall be the supreme Law of the Land . . . any Thing in the Constitution or Laws of any state to the Contrary notwithstanding." U.S. Const. art.

VI., cl. 2. Accordingly, "Congress may . . . pre-empt, *i.e.*, invalidate, a state law through federal legislation." *Oneok, Inc. v. Learjet, Inc.*, 135 S. Ct. 1591, 1595 (2015). It may do so by express statutory language, or it may do so implicitly, "either through 'field' pre-emption or 'conflict' pre-emption." *Id.* Congress engages in field preemption when it has intended "to foreclose any state regulation in the *area*," regardless of any inconsistency between the state regulation and federal standards. *Arizona v. United States*, 132 S. Ct. 2492, 2502 (2012). Conflict preemption occurs when "compliance with both federal and state regulations is a physical impossibility," *Florida Lime & Avocado Growers, Inc. v. Paul*, 373 U.S. 132, 142-43 (1963), or when state law "stands as an obstacle to the accomplishment and execution of the full purposes and objectives of Congress." *Hines v. Davidowitz*, 312 U.S. 52, 67 (1941).

B.

The Supreme Court in *Pacific Gas* established the legal analysis that governs this appeal, and I believe it is important to review the Court's reasoning in some detail. In *Pacific Gas*, the Court considered whether the AEA preempted a California statute imposing a moratorium on nuclear plant construction in California until a state commission found that adequate facilities and means of disposal of spent nuclear fuel were available. *See Pacific Gas*, 461 U.S. at 198. The plaintiffs ("the Utilities") maintained that the moratorium was enacted based on the California legislature's safety concerns regarding the radiological dangers of

operating nuclear reactors in the absence of any strategy for the long-term storage of spent nuclear fuel. *See id.* at 196-97, 204. They advanced three arguments that the moratorium was preempted: First, because the moratorium was grounded in nuclear safety concerns it fell within an exclusively federal field; second, the moratorium and the judgments underlying it conflicted with the decisions that Congress and the NRC had made regarding nuclear waste disposal; and third, the moratorium "frustrate[d] the federal goal of developing nuclear technology as a source of energy." *Id.* at 204.

The Court began its preemption analysis by observing that the Act did not "expressly require the States to construct or authorize nuclear power plants or prohibit the States from deciding, as an absolute or conditional matter, not to permit the construction of any further reactors." *Id.* at 205. The Court therefore turned to the question of field preemption and, specifically, the scope of the AEA's preempted field as it would relate to a state ban on construction of nuclear powerplants. The Court noted that the Utilities had maintained that Congress had intended to "preserve the federal government as the sole regulator of all matters nuclear." *Id.* The Court did not view the exclusive federal field as being quite that broad, however. Rather, the Court observed that Congress had intended roles for both the federal government and the states:

> Congress . . . intended that the federal government should regulate the radiological safety aspects involved in the construction

> and operation of a nuclear plant, but that the States [would] retain their traditional responsibility in the field of regulating electrical utilities for determining questions of need, reliability, cost and other related state concerns.

Id.

The Court then turned its focus to the challenged California statute. The Court noted initially that "the statute does not seek to regulate the construction or operation of a nuclear powerplant," which would have been clearly impermissible given that the Act specifically regulates the manner in which nuclear plants must be constructed and operated. *Id.* at 212; *see id.* (noting "the NRC's exclusive authority over plant construction and operation"). On the other hand, the Court rejected the argument of the defendants (collectively, "California") that "although safety regulation of nuclear plants by states is forbidden, a state may completely prohibit new construction until its safety concerns are satisfied by the federal government." *Id.* The Court reasoned that it is not the case that "[s]tate safety regulation is . . . preempted only when it conflicts with federal law. Rather, the federal government has occupied *the entire field of nuclear safety concerns*, except the limited powers expressly ceded to the states."[11] *Id.* (emphasis added); *see also* 42 U.S.C.

---

[11] The Court reiterated this analysis in *English*. The lawsuit at issue there included a state-law cause of action for intentional infliction of emotional distress brought by an employee of a nuclear-fuels production facility against her employer. *See English*,

§ 2021(k) ("Nothing in this section shall be construed to affect the authority of any State or local agency to regulate activities for purposes other than protection against radiation hazards.").

In light of the Court's conclusions regarding the scope of the preempted field, the Court reasoned that "[a] state moratorium on nuclear construction grounded in safety concerns [would] fall[] squarely within" it. *Pacific Gas*, 461 U.S. at 213. The Court added that a statute based on such concerns would also be preempted for the two other reasons the Utilities advanced. First, "a state judgment that nuclear power is not safe enough to be further developed would conflict directly with the countervailing judgment of the

---

496 U.S. at 77-78. The employee's claim arose out of actions her employer allegedly took against her in retaliation for her nuclear-safety complaints. *See id.* at 76. The Court considered whether the AEA preempted the employee's state-law cause of action under the doctrine of field preemption. *See id.* at 80-86. The *English* Court explained that the *Pacific Gas* Court had defined "part of the pre-empted field . . . by reference to the purpose of the state law." *Id.* at 84. The Court concluded that because "the state tort law at issue . . . [was] not motivated by safety concerns," the portion of the preempted field defined by statutory purpose was "not relevant." *Id.* Nevertheless, the *English* Court also concluded that a *separate* part of the preempted field consisted of laws that "have some direct and substantial effect on the decisions made by those who build or operate nuclear facilities concerning radiological safety levels." *Id.* at 85. In the end, the Court determined that the effect of the state claim on the nuclear safety "decisions made by those who build or operate nuclear facilities" was "neither direct nor substantial enough to place petitioner's claim" in that part of the preempted field either. *Id.*

NRC, that nuclear construction may proceed notwithstanding extant uncertainties as to waste disposal." *Id.* (citation omitted). And second, "[a] state prohibition on nuclear construction for safety reasons" would be preempted because it would "be in the teeth of the [Act's] objective to insure that nuclear technology be safe enough for widespread development and use." *Id.*

Even though the text of the moratorium itself did not demonstrate that the statute was preempted, given the Court's conclusion that a prohibition on the construction of nuclear powerplants would be preempted if grounded in nuclear safety concerns, the Court decided that "it [wa]s necessary to determine whether there [was] a non-safety rationale for [the statute]." *Id.*

Turning to that question, the Court noted that "California has maintained . . . that [its moratorium] was aimed at economic problems, not radiation hazards." *Id.* And the Court discussed legislative history supporting California's claim. *See id.* at 213-14. The Supreme Court observed that the Ninth Circuit, relying on this legislative history, had determined that the California legislature was indeed motivated by economic considerations rather than safety concerns. *See id.* at 214. And, the Court noted that its "general practice is to place considerable confidence in the interpretations of state law reached by the federal courts of appeals." *Id.* (citing *Mills v. Rogers*, 457 U.S. 291, 306 (1982), and *Bishop v. Wood*, 426 U.S. 341, 346 (1976)).

The Court then proceeded to discuss four considerations that the Utilities and *amici* had identified as

indicia that the Ninth Circuit's determination was incorrect and that the California legislature had actually been motivated by safety concerns. *See id.* at 214-16. Although the Court downplayed the persuasiveness of each of the four, it nonetheless acknowledged that they were "subject to varying interpretation." *Id.* at 216. Nevertheless, in addition to the inconclusiveness of these indicia, the Court identified two other reasons why it would accept the Ninth Circuit's determination regarding the California legislature's motivation rather than "becom[ing] embroiled" itself in the inquiry. *Id.* The Court noted first that "inquiry into legislative motive is often an unsatisfactory venture" considering that individual legislators do not necessarily all have the same motivation for voting to enact particular legislation. *Id.* And the Court noted as well that second-guessing the Ninth Circuit's inquiry into whether California was motivated by safety concerns "would be particularly pointless" considering that Congress specifically allowed the states to decide against constructing new nuclear powerplants for economic reasons. *See id.* The Court observed that states inclined not to allow new nuclear powerplants could easily disallow plants on that basis and that Congress would be free to revoke this authority if it decided that states were abusing it by offering perpetual economic considerations as the reason for restrictions that are actually grounded in safety concerns. *See id.* The Court therefore accepted the Ninth Circuit's determination – and California's representation – that the state legislature had been motivated primarily by economic considerations rather than safety concerns. *See id.* Consequently, the

Court held that "the statute lies outside the occupied field of nuclear safety regulation." *Id.*

The Court then turned to the Utilities' other two preemption arguments. The Court concluded that there was no conflict between the California legislature's judgment, for economic reasons, that nuclear plants should not be built because "[t]he NRC's imprimatur . . . indicates only that it is safe to proceed with such plants, not that it is economically wise to do so." *Id.* at 218.

Regarding the argument that the moratorium frustrated the "Act's purpose to develop the commercial use of nuclear power," *id.* at 220, the Court acknowledged that "the promotion of nuclear power" was indeed "a primary purpose" of the Act. *Id.* at 221. However, the Court also recognized that the Act was not designed to "promot[e] . . . nuclear power . . . 'at all costs.'" *Id.* at 222. Rather, "the legal reality remains that Congress . . . left sufficient authority in the states to allow the development of nuclear power to be slowed or even stopped *for economic reasons*." *Id.* at 223 (emphasis added). Because the Court had accepted the Ninth Circuit's determination that California's moratorium was in fact enacted for economic reasons rather than reasons of safety, the Court concluded that the moratorium did not frustrate the Act's purposes and thus was not preempted for that reason either. *See id.*

C.

The analysis in *Pacific Gas* demonstrates, both for reasons of field preemption and conflict preemption, that the district court erred in dismissing Virginia Uranium's action.

1. Field Preemption

I begin with field preemption. Just as was true of California's moratorium in *Pacific Gas*, *see* 461 U.S. at 212, the *substance* of Virginia's law – a ban on conventional uranium mining – does not conflict with the Act, which does not regulate conventional mining on non-federal lands. Nevertheless, as *Pacific Gas* held, a statute's *purpose* can itself bring the statute within the prohibited field. *See Pacific Gas*, 461 U.S. at 213; *see also English*, 496 U.S. at 84 (noting that *Pacific Gas* defined "part of the preempted field . . . by reference to the purpose of the state law"); *North Carolina ex rel. Cooper v. TVA*, 615 F.3d 291, 303 (4th Cir. 2010) ("[T]he [*Pacific Gas*] Court explained that when Congress chose to give the [NRC] control over issues relating to nuclear safety, it completely occupied the field of nuclear safety regulations."); *cf. Oneok, Inc.*, 135 S. Ct. at 1599-1600 (holding that whether the Natural Gas Act (NGA) preempts a particular state law turns on "the *target* at which the state law *aims*"; rejecting the dissent's contention that that [sic] the Court should instead "focus . . . on '*what* the State seeks to regulate . . . , not *why* the State seeks to regulate it'" (emphasis in original)). Thus, as in *Pacific Gas*, "it is necessary to

determine whether there is a non-safety rationale" for the ban.[12] *Pacific Gas*, 461 U.S. at 213.

Unlike in *Pacific Gas*, wherein California claimed that the moratorium was actually grounded on a non-safety concern, *the Commonwealth makes no such claim here*. Rather, at this stage of the litigation, the Commonwealth *concedes* the truth of Virginia Uranium's allegation that the moratorium is grounded on the Virginia legislature's concerns regarding the radiological safety of uranium ore milling and tailings

---

[12] Citing *English*, the Commonwealth asserted during oral argument that regardless of the *purpose* of a state statute, it falls in the preempted field only if its *effect* is sufficiently direct and substantial. But this argument plainly conflates the two *separate* parts of the preempted field that *English* described. *See English*, 496 U.S. at 84 ("[E]ven as the [*Pacific Gas*] Court suggested that *part* of the pre-empted field is defined by reference to the purpose of the state law in question, it made clear that *another part* of the field is defined by the state law's actual effect on nuclear safety." (emphasis added)). Under *Pacific Gas*, any state statute grounded in protecting citizens from the radiological dangers of activities regulated by the Act is preempted, regardless of the statute's effect.

The Commonwealth also relied at oral argument on *Silkwood v. Kerr-McGee Corp.*, 464 U.S. 238 (1984). In *Silkwood*, the Court considered, as is relevant here, "whether a state-authorized award of punitive damages arising out of the escape of plutonium from a federally licensed nuclear facility [was] preempted . . . because it" fell within the "forbidden field" of laws "regulating the safety aspects of nuclear energy." *Id.* at 240-41. The Court concluded that Congress had not intended that such state remedies would be preempted and that Congress had indeed "assumed that persons injured by nuclear accidents were free to utilize existing state tort law remedies." *Id.* at 252. Because *Silkwood* did not concern a law claimed to have been enacted to protect against radiological dangers, it is no help to the Commonwealth here.

storage. The Commonwealth also does not dispute that these two activities are regulated under the Act.[13] *See* 42 U.S.C. §§ 2014(e)(2), (z), 2092, 2111(a), 2114(a). Thus, under the reasoning of *Pacific Gas*, because the Virginia statute was grounded in nuclear safety concerns, it "falls squarely in the prohibited field," and is preempted for that reason.[14] *Pacific Gas*, 461 U.S. at 213.

---

[13] The Commonwealth argues that legislation grounded in radiological safety concerns *regarding an activity that the Act does not regulate*, such as the taking of X-rays, would not be preempted. There is no reason to address that issue in this case, however, given that the activities that the Commonwealth concedes were the focus of the legislature's concern – uranium milling and tailings management – are regulated by the Act.

[14] The district court concluded, and the Commonwealth argues, that *Pacific Gas* is distinguishable from the present case because Virginia's ban concerns an activity the Act does not regulate – uranium mining – while the moratorium challenged in *Pacific Gas* "regulated an activity that [was] clearly committed to the NRC's regulatory authority." *Virginia Uranium, Inc.*, 147 F. Supp. 3d at 476. But the district court's conclusion that the California moratorium regulated an activity that the Act also regulated is directly at odds with the *Pacific Gas* Court's own view: *Pacific Gas* specifically explained that the California moratorium did "not seek to regulate the construction or operation of a nuclear powerplant." 461 U.S. at 212 (emphasis added).

The district court also described the relevant analysis in *Pacific Gas* as nonbinding dicta, *see Virginia Uranium*, 147 F. Supp. 3d at 476, a view that even the Commonwealth appropriately does not appear to embrace. "Dictum is statement in a judicial opinion that could have been deleted without seriously impairing the analytical foundations of the holding – that, being peripheral, may not have received the full and careful consideration of the court that uttered it." *Pittston Co. v. United States*, 199 F.3d 694, 703 (4th Cir. 1999) (internal quotation marks omitted). The analysis

Until today, each Court of Appeals addressing the issue since *Pacific Gas* has held that state statutes enacted to protect against the radiological dangers of activities the AEA regulates are preempted *regardless of whether the statutory text reveals that purpose and regardless of whether the statute expressly prohibits an activity the Act regulates.*[15]

In *Skull Valley Band of Goshute Indians v. Nielson*, 376 F.3d 1223 (10th Cir. 2004), for example, the Tenth Circuit considered whether the AEA preempted several Utah statutes. Most relevant here were statutes that took control of "the only road permitting

---

leading up to, and including, the Court's conclusion that the California moratorium would be preempted if it were determined to be grounded on safety concerns is a central part of the Supreme Court's opinion. And even if it were dicta, which it is not, we would still be bound to follow it considering the obvious importance of the analysis to the opinion. *See United States v. Fareed*, 296 F.3d 243, 247 (4th Cir. 2002) (explaining that lower federal appellate courts are "bound by Supreme Court dicta almost as firmly as by the Court's outright holdings").

[15] Of course, the Ninth Circuit in *Pacific Gas* itself also recognized that the California moratorium before the court would be preempted if it were enacted for nuclear safety purposes. *See Pacific Legal Found. v. State Energy Res. Conservation & Dev. Comm'n*, 659 F.2d 903, 922-23 (9th Cir. 1981), *aff'd sub nom. Pacific Gas & Elec. Co. v. State Energy Res. Conservation & Dev. Comm'n*, 461 U.S. 190 (1983). It was for that reason that the Court of Appeals undertook to "inquire whether [the moratorium was] aimed at radiation hazards." *Id.* at 923. After a detailed analysis of the applicable statute and the history behind its enactment, the court concluded that the moratorium was "directed towards purposes other than protection against radiation hazards." *Id.* at 925. The Supreme Court in *Pacific Gas*, in turn, accepted the Ninth Circuit's determination. *See Pacific Gas*, 461 U.S. at 214-16.

access to the [proposed spent nuclear fuel storage] facility . . by designating it a state highway" and then "requiring the consent of the governor and the state legislature before" any "company engaged in the transportation or storage of" spent nuclear fuel was allowed to drive on it (the "Road Provisions"). *Id.* at 1251-52. As was true of the statute in *Pacific Gas*, and as is true of the Virginia statute challenged in the present case, the Road Provisions did not *directly* prohibit any activities regulated by the Act. In fact, the conduct the provisions *directly* addressed concerned transportation, a category traditionally subject to local control. Nevertheless, the Tenth Circuit recognized that regardless of the nature of the activity the provisions directly addressed, the applicable preemption analysis "requires consideration of the *purpose* of the allegedly preempted statute." *Id.* at 1252 (emphasis added).

As for what the actual purpose was, the court noted comments by the sponsoring legislator and the governor indicating that the provisions' purpose was to protect Utah citizens against the hazards of storage and transportation of nuclear waste by preventing those activities from occurring in Utah. *See id.* Observing that "Utah officials [did] not attempt to contest any of this evidence" and that it was unlikely that they could, the court concluded that "[t]he record . . . establishes that the Road Provisions were enacted for reasons of radiological safety and are therefore preempted." *Id.*

The court also conducted a similar analysis of provisions that "prohibit[ed] counties from providing 'municipal-type services,' including fire protection, garbage disposal, water, electricity, and law enforcement, to [spent nuclear fuel] transportation and storage facilities within the county." *Id.* at 1245. The court rejected the argument that provisions affecting these types of services were not preempted because such services "have been traditionally regulated by local governments." *Id.* at 1247. Rather, the court concluded that despite the fact that the subjects that the law *directly* addressed were traditionally left to local governments to regulate, "a state cannot use its authority to regulate law enforcement and other similar matters *as a means* of regulating radiological hazards."[16] *Id.* at 1248 (emphasis added).

---

[16] At oral argument, the Commonwealth argued that *Skull Valley* was distinguishable from the present case because the Road Provisions were designed to prevent an activity regulated by the Act, nuclear waste storage. And the district court distinguished *Skull Valley* on the same basis. *See Virginia Uranium, Inc.*, 147 F. Supp. 3d at 473 n.13 ("The statute [in *Skull Valley*] plainly targeted nuclear-waste facilities and only 'regulate[d] law enforcement and other similar matters as a means of regulating radiological hazards.'"). This is not a valid distinction, however, considering that the Virginia statute was also designed to prevent – or at least significantly reduce the occurrence of – activities regulated by the Act, uranium milling and tailings management.

It is worth noting as well that, as the Supreme Court considered a petition for writ of certiorari in *Skull Valley*, the Court invited the Solicitor General to express the United States' views. The Solicitor General wholeheartedly endorsed the Tenth Circuit's analysis and took the view that certiorari should be denied. *See Nielson v. Private Fuel Storage, L.L.C.*, 2005 WL 2985709, at

The Second Circuit in *Entergy Nuclear Vermont Yankee, LLC v. Shumlin*, 733 F.3d 393 (2d Cir. 2013), engaged in a similar analysis, holding that the AEA preempted a Vermont law requiring that nuclear plants in Vermont can be operated only with the legislature's explicit approval. *See id.* at 414, 422. As with the statutes in *Pacific Gas* and the present case, the substance of the restriction the Vermont law imposed did not conflict with the AEA. *See Pacific Gas*, 461 U.S. at 212. Nevertheless, the court recognized that "a law enacted for th[e] purpose" of protecting against radiological dangers would "fall[] squarely within the prohibited field." *Entergy*, 733 F.3d at 415. Consequently, the court reasoned that, as in *Pacific Gas*, it was "'necessary to determine whether there is a non-safety rationale' for" the statute. *Id.* (quoting *Pacific Gas*, 461 U.S. at 213).

The text of the Vermont law explicitly declared that the statute was *not* grounded in nuclear safety concerns. *See id.* at 415-16. Nevertheless, the court noted that its "inquiry [into the legislature's motivation] does not end at the text of the statute." *Id.* at 416.

---

*10, 13 (U.S. Nov. 4, 2005) ("Here, the lower courts found that the entirety of the series of interrelated laws at issue here were targeted specifically to regulate the safety aspects of the proposed waste facility and were designed to halt the construction and operation of the proposed facility based on radiation hazard concerns. In light of those factual determinations, the decision to find the entire statutory scheme preempted on its face is correct. . . . [W]hen a State enacts legislation based upon 'nuclear safety concerns,' the laws are preempted without the need to demonstrate their effect." (quoting *Pacific Gas*, 461 U.S. at 212-13)).

The court observed that, were the text determinative, "legislatures could nullify nearly all unwanted federal legislation by simply publishing a legislative committee report articulating some state interest or policy – other than the frustration of the federal objective – that would be tangentially furthered by the proposed state law." *Id.* (internal quotation marks omitted); *see also id.* ("We . . . decline Vermont's invitation to apply an analytic framework akin to 'rational basis review,' which would preclude us from identifying the true purpose of a statute as required by *Pacific Gas* and would allow states to implement a 'moratorium on nuclear construction grounded in safety concerns [that] falls squarely within the prohibited field.'" (quoting *Pacific Gas*, 461 U.S. at 213)). The court therefore proceeded to review various *extra*-textual indicia concerning the legislature's motivation for enacting the statute. *See id.* at 417-21. In the end, the Court of Appeals agreed with the district court that radiological safety concerns were the "primary purpose" for the statute's enactment, even if individual legislators may have acted for other reasons as well. *Id.* at 420; *see id.* at 420-22. The court thus concluded that the statute was preempted. *See id.* at 422. *See also Vermont Yankee Nuclear Power Corp. v. Entergy Nuclear Vt. Yankee, LLC*, 683 F.3d 1330, 1347 (Fed. Cir. 2012) ("[A] state law related to nuclear power is preempted if it . . . is motivated by safety concerns."); *United States v. Manning*, 527 F.3d 828, 836 (9th Cir. 2008) ("The [Act] preempts [state law] if . . . the purpose of the [state law] is to regulate against radiation hazards."); *United States v. Kentucky*, 252 F.3d 816, 823 (6th Cir. 2001) ("[T]he AEA

preempts any state attempt to regulate materials covered by the Act for safety purposes.").

I would apply the very same principles that animated the decisions in all of these cases and hold that Virginia Uranium has successfully alleged a claim under the doctrine of field preemption.

2. Conflict Preemption

In addition to being preempted for falling within the prohibited field, the Virginia statute is also preempted under the doctrine of conflict preemption because it "stands as an obstacle to the accomplishment and execution of the full purposes and objectives of Congress." *Hines*, 312 U.S. at 67. As the Supreme Court explained in *Pacific Gas*, "[t]here is little doubt that a primary purpose of the . . . Act was, and continues to be, the promotion of nuclear power." 461 U.S. at 221; *see also* 42 U.S.C. § 5801. More specifically, an objective of the Act was to ensure that the development of nuclear energy would be sufficiently safe that the power of the private sector could be unleashed to develop nuclear energy "to the maximum extent consistent with the common defense and security and with the health and safety of the public." 42 U.S.C. § 2013(d); *see English*, 496 U.S. at 80-81; *Pacific Gas*, 461 U.S. at 213. It is hard to imagine how Virginia's mining ban, grounded on safety concerns regarding the radiological dangers the federal government is charged with regulating, would not be found to frustrate those objectives. Virginia, not trusting that the federal

government has sufficiently protected against the radiological dangers of uranium milling and tailings management, has unilaterally sought to *prevent the involvement of the very private-sector forces that the Act was designed to unleash*. Such an attempt would "be in the teeth of the . . . Act's objective to insure that [the development of nuclear source material is] safe enough for widespread development and use – and [would be] preempted for that reason" as well.[17] *Pacific Gas*, 461 U.S. at 213; *see Northern States Power Co. v. Minnesota*, 447 F.2d 1143, 1153-54 (8th Cir. 1971) ("Congress vested the AEC with the authority to resolve the proper balance between desired industrial progress and adequate health and safety standards. . . . Were the states allowed to impose stricter standards . . . , they might conceivably be so overprotective in the area of health and safety as to unnecessarily stultify the industrial development and use of atomic energy for the production of electric power."), *aff'd*, 405 U.S. 1035 (1972).

---

[17] The district court concluded that there was no conflict between the Virginia legislature's judgment and that of Congress and the NRC because the ban reached only conventional mining and Congress and the NRC expressed no preference regarding whether uranium be recovered by conventional mining or other means. *See Virginia Uranium, Inc.*, 147 F. Supp. 3d at 477. But the fact that Congress did not express *a preference* for conventional mining over other means ignores the fact that, in many cases, conventional mining is the only feasible alternative and thus a ban on conventional mining is a de facto ban on uranium development, including here, where the ban affects the largest uranium deposit in the country.

Importantly, a state law is preempted for frustrating a federal statute's objectives "if it interferes with the methods by which the federal statute was designed to reach [its] goal." *International Paper Co. v. Ouellette*, 479 U.S. 481, 494 (1987); *see Columbia Venture, LLC v. Dewberry & Davis, LLC*, 604 F.3d 824, 830 (4th Cir. 2010). Although the district court suggested that the NRC could counter Virginia's efforts by condemning the property, *see Virginia Uranium, Inc.*, 147 F. Supp. 3d at 477 n.20, the availability of this option does not change the fact that Virginia has interfered with Congress's chosen method of uranium development, under which private parties such as Virginia Uranium would be free to engage in the regulated activities themselves without having to involve the federal government.

Virginia's interference with Congress's intended methods becomes even more apparent when one considers the clear route Congress set out for states that desire to assume the federal government's regulatory authority. Congress designed section 2021 of the Act to further "cooperation between the States and the Commission with respect to control of radiation hazards" and "to establish procedures and criteria" for the "assumption . . . by the States" of "certain of the Commission's regulatory responsibilities." 42 U.S.C. § 2021(a)(2), (4). For those reasons, the Act authorizes states "to enter into agreements" with the NRC "to regulate the materials covered by the agreement" for "the duration of such an agreement." 42 U.S.C. § 2021(b). Critically, though, a state seeking to enter such an agreement must first persuade the federal regulators

that the state's proposed regulations are "compatible with the Commission's program for the regulation of [the materials covered by the agreement]," and are "adequate to protect the public health and safety with respect to [those] materials." 42 U.S.C. § 2021(d). It is undisputed here that Virginia never obtained the authority to regulate uranium tailings. By attempting instead to eschew the system Congress established, and by *unilaterally* regulating against the dangers of uranium tailings under the pretext of regulating uranium mining, Virginia circumvented the Act's requirements and frustrated Congress's objectives.

Indeed, the Supreme Court found preemption on analogous facts in *Gade v. National Solid Wastes Management Association*, 505 U.S. 88 (1992). In that case, Illinois attempted to enforce training standards for certain hazardous waste workers that were stricter than the requirements of the federal Occupational Safety and Health Act of 1970 ("OSHA"). *See id.* at 93-94. OSHA allowed states to regulate an occupational safety and health issue themselves only "pursuant to [a federally] approved state plan that displaces the federal standards." *Id.* at 99 (plurality opinion). By giving states the option of displacing federal regulation entirely but conditioning states' rights to do so on federal approval, Congress was able "to promote occupational safety and health while at the same time avoiding duplicative, and possibly counterproductive, regulation." *Id.* at 102 (plurality opinion). The Court held that Illinois' attempt to supplement the federal regulations with its own standards without obtaining federal

approval, *see id.* at 93-95, frustrated OSHA's objectives because it "interfere[d] with the methods by which the federal statute was designed to" achieve its goals. *Id.* at 103 (plurality opinion); *see id.* at 104 n.2 (plurality opinion); *id.* at 109-14 (Kennedy, J., concurring in part and concurring in the judgment) (agreeing with the plurality's determination of the scope of the preemptive field but disagreeing with the plurality on the question of whether the preemption was implied or express). *See also International Paper Co.*, 479 U.S. at 495 (holding that Clean Water Act preempted Vermont nuisance suits to the extent that the suits sought to impose liability on a New York point source because such suits would allow "Vermont and other States [to] do indirectly what they could not do directly – regulate the conduct of out-of-state sources"); *cf. Arizona*, 132 S. Ct. at 2506-07 (holding that Arizona statute that "authoriz[ed] state officers to decide whether an alien should be detained for being removable . . . violate[d] the principle that the removal process is entrusted to the discretion of the Federal Government" and thus "create[d] an obstacle to the full purposes and objectives of Congress").

I would apply the principles espoused in *Pacific Gas*, *Gade*, and these other cases and hold that Virginia Uranium has successfully alleged a claim under the doctrine of conflict preemption as well.

III.

In sum, established Supreme Court law makes clear that the AEA preempts state statutes enacted for the purpose of protecting against the radiological dangers of activities the AEA regulates. Because the Commonwealth has conceded at this point in the litigation that its statute was enacted for just that purpose, the Virginia statute clearly falls within that prohibited field.

Moreover, the statute is also preempted because it frustrates the AEA's objectives. The Act is designed to allow the federal government to establish rules to ensure that uranium can be developed safely so that the power of the private sector may be utilized to *maximize* our country's ability to develop nuclear power. The Act allows states to assume regulatory authority, but only to the extent that the NRC has agreed to that assumption based on its approval of the state's regulatory program. By refusing to accept the federal government's exclusive role in protecting against the radiological dangers of uranium milling and tailings management, and by instead unilaterally seeking to restrict the occurrence of these activities based on its own safety concerns, Virginia has circumvented the AEA's requirements and frustrated its objectives and, in so doing, prevented development of the largest uranium deposit in the United States.

I would reverse the district court's dismissal of Virginia Uranium's action, and I respectfully dissent from the majority's contrary disposition.

IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF VIRGINIA
DANVILLE DIVISION

VIRGINIA URANIUM, INC., et al., Plaintiffs, v. TERRY MCAULIFFE, et al., Defendants.	Case No.: 4:15-cv-00031 **MEMORANDUM OPINION** By: Hon. Jackson L. Kiser Senior United States District Judge

On November 6, 2015, I heard argument on Plaintiffs' Motion for Summary Judgment and Defendants' Rule 12(b)(1) and Rule 12(b)(6) Motions to Dismiss. The parties have fully briefed the motions, and I have reviewed the relevant filings and arguments of counsel. For the reasons stated herein, I will grant Defendants' motions and, accordingly, deny Plaintiffs' motion as moot.

I. STATEMENT OF FACTS AND PROCEDURAL BACKGROUND[1]

Located just to the northeast of Chatham, Virginia, the Coles Hill estate's gently sloped fields have been farmed by the Coles family

[1] At this stage, the facts are recited in the light most favorable to Plaintiffs, and reasonable inferences are drawn in their favor. *See Ashcroft v. Iqbal*, 556 U.S. 662, 678 (2009).

> since shortly after the Revolutionary War. Beneath those fields lies a deposit of approximately 119 million pounds of uranium ore – the largest natural deposit of uranium in the United States and one of the largest in the world.

(Compl. ¶ 24, Aug. 5, 2015 [ECF No. 1].) Plaintiffs Coles Hill, LLC, and Bowen Minerals, LLC, own the land above the Coles Hill uranium deposit. (*Id.* ¶¶ 10, 11, 25.) While "retaining a royalty interest," they lease the mineral estate to Plaintiff Virginia, Uranium, Inc., which is owned by Plaintiff Virginia Energy Resources, Inc. (*Id.* ¶¶ 9-12, 25.) The lease is to last until 2045. (*Id.* ¶¶ 9, 25.)

"Developing the uranium deposit beneath Coles Hill would entail . . . mining, milling, and tailings[2] management." (*Id.* ¶ 29.) The raw uranium ore would "likely be extracted through a conventional underground mine." (*Id.* ¶ 30.) This mining would be similar to that for "coal, titanium, and numerous other minerals . . . mined in Virginia." (*Id.*)

Once extracted from the ground, the uranium ore must be "*milled* or processed into useable form." (*Id.* ¶ 31.) This processing "[t]ypically" involves an on-site mill. (*Id.*) The mill would "grind[] the uranium ore into a sand, which [would] then run through either an acidic or alkaline solution to separate pure uranium

---

[2] Tailings are "the rock left behind when . . . uranium is removed from the raw ore." (Compl. ¶ 32.) These are wastes, a "radioactive byproduct." (*See id.* ¶ 5.) Wastes might also be left when mining uranium ore from the ground. (*See id.*)

from . . . 'tailings.'" (*Id.*) The uranium would, then, be "concentrated and dried into 'yellowcake,' . . . the final product that is commercially sold and shipped off-site for enrichment." (*Id.*)

The mill tailings "must be securely stored, to prevent any radioactive materials from escaping into the air, leaking into the groundwater, [or] being released to surface waters." (*Id.* ¶ 34.) At Coles Hill, mill tailings would be stored in a management facility "in safe and reliable below-grade cells, which are capped on top with synthetic and earthen materials to prevent the release of radioactive materials into the air, and lined on the bottom with multiple layers of heavy-duty materials to prevent any release into the surrounding soil or groundwater." (*Id.* ¶ 32.)

Although Virginia's Department of Mines, Minerals, and Energy has permitted Virginia Uranium, Inc., "to engage in 'exploration activity'" to learn "the nature and extent of the Coles Hills deposit" (*id.* ¶ 75), Va. Code Ann. § 45.1-283 prevents any Virginia agency from accepting Virginia Uranium's application for a permit to mine it (*id.* ¶¶ 2, 4, 59, 98-99).[3]

On August 5, 2015, Virginia Uranium, Inc., Coles Hill, LLC, Bowen Minerals, LLC, and Virginia Energy Resources, Inc., ("Plaintiffs") filed suit for declaratory

---

[3] The Commonwealth of Virginia has agreed to assume some of the Nuclear Regulatory Commission's regulatory authority but none over uranium milling or mill tailings' management. (Compl. ¶ 49.)

and injunctive relief against Virginia's Governor, Secretary of Commerce and Trade, Secretary of Natural Resources, and various officials affiliated with the Department of Environmental Quality ("DEQ") or the Department of Mines, Minerals, and Energy ("Defendants"). Plaintiffs seek a declaration that the Atomic Energy Act of 1954, 42 U.S.C. § 2011 et seq., as amended, ("AEA") preempts Va. Code Ann. § 45.1-283. (*Id.* ¶ 111.) They also seek an injunction, forbidding Defendants from adhering to Va. Code Ann. § 45.1-283 and requiring them, instead, to process permit applications for uranium mining. (*Id.*) Defendants move to dismiss, all contending that the AEA does not preempt Va. Code Ann. § 45.1-283. Several Defendants have asserted Eleventh-Amendment immunity as an alternate ground for dismissal.

II. STANDARDS OF REVIEW

"To survive a [Rule 12(b)(6)] motion to dismiss, a complaint must contain sufficient factual matter, accepted as true, to 'state a claim to relief that is plausible on its face.'" *Ashcroft v. Iqbal*, 556 U.S. 662, 678 (2009) (quoting *Bell Atl. Corp. v. Twombly*, 550 U.S. 544, 570 (2007)). "A claim has facial plausibility when the pleaded factual content allows the court to draw the reasonable inference that the defendant is liable for the misconduct alleged." *Id.* A "'court need not accept the [plaintiff's] legal conclusions drawn from the facts, nor need it accept as true unwarranted inferences, unreasonable conclusions, or arguments.'" *Philips v. Pitt Cnty. Mem'l Hosp.*, 572 F.3d 176, 180 (4th Cir. 2009)

(alteration in original) (quoting *Wahi v. Charleston Area Med. Ctr., Inc.*, 562 F.3d 599, 616 n.26 (4th Cir. 2009)). "When a complaint raises an arguable question of law which the district court ultimately finds is correctly resolved against the plaintiff, dismissal on Rule 12(b)(6) grounds is appropriate. . . ." *Neitzke v. Williams*, 490 U.S. 319, 328 (1989).

When a state official moves, under Rule 12(b)(1),[4] to dismiss for Eleventh-Amendment immunity and asserts no factual matter beyond the complaint, a court need only determine whether the "complaint fails to allege facts" that would subject the official to suit. *See Adams v. Bain*, 697 F.2d 1213, 1219 (4th Cir. 1982). "In that event, all the facts alleged in the complaint are assumed to be true and the plaintiff, in effect, is afforded the same procedural protection as he would receive under a Rule 12(b)(6) consideration." *Id.*

---

[4] "Difficult as it may be to describe precisely the nature of Eleventh Amendment immunity," *Constantine v. Rectors & Visitors of George Mason Univ.*, 411 F.3d 474, 482 (4th Cir. 2005), "'[t]he recent trend . . . appears to treat Eleventh Amendment immunity motions under Rule 12(b)(1),'" *Pele v. Pa. Higher Educ. Assistance Agency*, 13 F. Supp. 3d 518, 521 (E.D. Va. 2014) (quoting *Skaggs v. W. Reg'l Jail*, No. CIV. A. 3:13-3293, 2014 WL 66645, at *4 (S.D. W. Va. Jan. 8, 2014)).

III. DISCUSSION

A. The Governor, the two Cabinet Secretaries, and the DEQ officials are immune from suit.

The Governor, the Secretary of Commerce and Trade, the Secretary of Natural Resources, and the DEQ officials invoke Eleventh-Amendment immunity.

> Under the Eleventh Amendment, "[t]he judicial power of the United States shall not be construed to extend to any suit in law or equity, commenced or prosecuted against one of the United States by Citizens of another State or by Citizens or Subjects of any Foreign State." The United States Supreme Court has read the Eleventh Amendment to render States immune from being hauled into federal court by private parties.

Wright v. North Carolina, 787 F.3d 256, 261 (4th Cir. 2015) (alteration in original) (quoting U.S. Const. amend XI).

> [T]he essence of the immunity is that the State cannot be sued in federal court at all, even where the claim has merit, and the importance of immunity as an attribute of the States' sovereignty is such that a court should address that issue promptly once the State asserts its immunity.

Constantine v. Rectors & Visitors of George Mason Univ., 411 F.3d 474, 482 n.4 (4th Cir. 2005).

A state official's protection is "less robust" than a state's. *See Wright*, 787 F.3d at 261. "[A] state official

ceases to represent the state when it attempts to use state power in violation of the Constitution. Such officials thus may be enjoined from such unconstitutional action . . . but only if they have some connection with the enforcement of an unconstitutional act." *Id.* (citations and internal quotation marks omitted). This connection, or "special relation," "requires *proximity to* and *responsibility for* the challenged state action." *Id.* at 261-62 (citations and internal quotation marks omitted). In contrast, "'a generalized duty to enforce state law or general supervisory power over the persons responsible for enforcing the challenged provision will not subject an official to suit.'" *Ass'n des Eleveurs de Canards et d'Oies du Quebec v. Harris*, 729 F.3d 937, 943 (9th Cir. 2013) (quoting *Coal. to Defend Affirmative Action v. Brown*, 674 F.3d 1128, 1134 (9th Cir. 2012)), *cert. denied*, 135 S. Ct. 398 (2014); *see Wright*, 787 F.3d at 262; *Hutto v. S.C. Ret. Sys.*, 773 F.3d 536, 550 (4th Cir. 2014).

Neither the Governor nor the two Cabinet Secretaries are sufficiently connected to Va. Code Ann. § 45.1-283's implementation to be subject to suit. Plaintiffs allege that these officials generally supervise or set policy for departments involved in Va. Code Ann. § 45.1-283's implementation. (Compl. ¶¶ 13, 14, 18.) These general roles are insufficiently proximate to or responsible for the challenged conduct and do not strip

these officials of their Eleventh-Amendment immunity.[5] The Governor and the two Cabinet Secretaries are immune from suit.

The DEQ officials are also insufficiently connected to the challenged conduct. Plaintiffs claim that Va. Code Ann. § 45.1-283 prevents the DEQ officials from issuing four permits necessary for the proposed mining operation: a Prevention of Significant Deterioration permit, a Major Source of Hazardous Air Pollutants permit, a Virginia Pollutant Discharge Elimination System permit, and a Hazardous Waste Management Facility permit. (*Id.* ¶¶ 55-58.) Va. Code Ann. § 45.1-283 prohibits "any agency of the Commonwealth" from accepting "permit applications for uranium mining." The four identified permits are not "for uranium mining" but, respectively, for constructing a "major emitting facility," 42 U.S.C. § 7475(a), for constructing and operating a "major source of hazardous air pollutants," 9 Va. Admin. Code § 5-80-1420(A), for discharging "sewage, industrial wastes, other wastes, or any noxious or deleterious substances" into state waters, Va.

---

[5] Contrary to Plaintiffs' argument, the Governor's policy positions are too far attenuated from Va. Code Ann. § 45.1-283's implementation, *see, e.g.*, *Waste Mgmt. Holdings, Inc. v. Gilmore*, 252 F.3d 316, 330-31 (4th Cir. 2001), and the inquiry does not concern the challenged law's nature, *see Ex Parte Young*, 209 U.S. 123, 157 (1908). Addressing the two Cabinet Secretaries, Plaintiffs misplace their reliance on *Papasan v. Allain*, where the Supreme Court merely noted that, owing to his general supervisory authority over local school officials, Mississippi's Secretary of State could be enjoined "[*t*]*o the extent that*" his conduct "violate[d] the Equal Protection Clause." 478 U.S. 265, 282 n.14 (1985) (emphasis added).

Code Ann. § 62.1-44.5(A)(1), and for "stor[ing], provid[ing] treatment for, or dispos[ing] of a hazardous waste," *id.* § 10.1-1426(A). Va. Code Ann. § 45.1-283 might obviate Plaintiffs' application for these permits, but it does not prohibit the DEQ from accepting applications for them. The DEQ officials are immune from suit.

B. The AEA does not preempt Va. Code Ann. § 45.1-283.[6]

"Under the Supremacy Clause, federal statutes are part of 'the supreme law of the land.' A long-standing principle of our jurisprudence teaches that, where there is a clash between state and federal laws, federal law prevails." *Sukumar v. Nautilus, Inc.*, 829 F. Supp. 2d 386, 392 (W.D. Va. 2011) (quoting U.S. Const. art. VI, cl. 2). "Under this principle, Congress has the power to preempt state law." *Arizona v. United States*, 132 S. Ct. 2492, 2500 (2012). Preemption, however, is not a metaphor for state law being "effortlessly overrun by each and every federal mandate." *See Sukumar*, 829 F. Supp. 2d at 392. "[C]ourts should assume that 'the historic police powers of the States' are not superseded 'unless that was the clear and manifest purpose of

---

[6] Defendants suggest that discussion in *Armstrong v. Exceptional Child Center, Inc.*, 135 S. Ct. 1378, 1383 (2015), might reveal Plaintiffs to lack a right of action. Distinguishing the Supreme Court's rejection of the notion that the Supremacy Clause implies a private right of action, Plaintiffs correctly rely on its acknowledgment that a party may invoke a federal court's equitable jurisdiction to enjoin preempted conduct. *See id.* at 1384.

Congress.'" *Arizona*, 132 S. Ct. at 2501 (quoting *Rice v. Santa Fe Elevator Corp.*, 331 U.S. 218, 230 (1947)).

The primary categories of preemption are "express, field, and conflict." *Sukumar*, 829 F. Supp. 2d at 392. They "are not 'rigidly distinct,'" *Crosby v. Nat'l Foreign Trade Council*, 530 U.S. 363, 372 n.6 (2000) (quoting *English v. Gen. Elec. Co.*, 496 U.S. 72, 79 n.5 (1990)), and "'the purpose of Congress is the ultimate touchstone in every pre-emption case,'" *Epps v. JP Morgan Chase Bank, N.A.*, 675 F.3d 315, 322 (4th Cir. 2012) (quoting *Wyeth v. Levine*, 555 U.S. 555, 565 (2009)). Plaintiffs invoke both field and conflict preemption.

1. Va. Code Ann. § 45.1-283 intrudes into no AEA field.

Under field preemption,

> Congress occupies a certain field by regulating so pervasively that there is no room left for the states to supplement federal law, or where there is a federal interest . . . so dominant that the federal system will be assumed to preclude enforcement of state laws on the same subject.

United States v. South Carolina, 720 F.3d 518, 528-29 (4th Cir. 2013) (omission in original) (citations and internal quotation marks omitted). "'[W]hen the Federal Government completely occupies a given field or an identifiable portion of it, . . . the test of preemption is whether the matter on which the State asserts the

right to act is in any way regulated by the Federal Act.'" *North Carolina ex rel. Cooper v. Tenn. Valley Auth.*, 615 F.3d 291, 303-04 (4th Cir. 2010) (omission in original) (quoting *Pac. Gas & Elec. Co. v. State Energy Res. Conservation & Dev. Comm'n*, 461 U.S. 190, 212-13 (1983)).

"'Every Act of Congress occupies some field, but [a court] must know the boundaries of that field before [it] can say that [the Act] has precluded a state from the exercise of any power reserved . . . by the Constitution.'" *Keller v. City of Fremont*, 719 F.3d 931, 942 (8th Cir. 2013) (quoting *De Canas v. Bica*, 424 U.S. 351, 360 n.8 (1976)), *cert. denied*, 134 S. Ct. 2140 (2014). "To determine the boundaries that Congress sought to occupy within the field, '[a court] look[s] to the federal statute itself, read in the light of its constitutional setting and its legislative history.'" *Lozano v. City of Hazleton*, 724 F.3d 297, 303 (3d Cir. 2013) (quoting *De Canas*, 424 U.S. at 360 n.8), *cert. denied*, 134 S. Ct. 1491 (2014). "Statutory text and structure provide the most reliable guideposts in this inquiry." *PPL EnergyPlus, LLC v. Nazarian*, 753 F.3d 467, 474 (4th Cir. 2014), *cert. granted sub nom. CPV Md., LLC v. PPL EnergyPlus, LLC*, 136 S. Ct. 356 (2015), *and cert. granted sub nom. Hughes v. PPL EnergyPlus, LLC*, 136 S. Ct. 382 (2015).

The Atomic Energy Act of 1946, Pub. L. No. 585, ch. 724, 60 Stat. 755, reflected Congress' postwar desire to extend the use of atomic energy to civilian (although still largely governmental) purposes in order to "assur[e] the common defense and security" and "improv[e] the public welfare," among other goals, *see id.*

§ 1(a), 60 Stat. at 755-56. It imposed several regulatory fields, including one respecting "source material." *Id.* § 5(b), 60 Stat. at 761-63. The provisions on source materials were substantially adopted in the Atomic Energy Act of 1954, Pub. L. No. 703, ch. 1073, 68 Stat. 919, which replaced the 1946 legislation. Although there have been significant amendments in the interim, the 1954 legislation is the AEA's foundation.

Since 1954, Congress has premised its regulatory authority over "[t]he processing and utilization" of source materials on its powers respecting "interstate and foreign commerce," "common defense and security," and public "health and safety." 42 U.S.C. § 2012(c), (d); ch. 1073, § 1(c), (d), 68 Stat. at 921. The 1954 legislation "stemmed from Congress' belief that the national interest would be served if the Government encouraged the private sector to develop atomic energy for peaceful purposes under a program of federal regulation and licensing." *English*, 496 U.S. at 81. As it did in the 1946 legislation, *see generally* ch. 724, 60 Stat. at 761-63, Congress gave the Atomic Energy Commission ("AEC") regulatory and licensing authority over (among other things) certain source materials, *see generally* ch. 1073, 68 Stat. at 932-35. Today, the Nuclear Regulatory Commission ("NRC") has that authority. 42 U.S.C. § 2141(a); Energy Reorganization Act of 1974, Pub. L. No. 93-438, 88 Stat. 1233.

As relevant here, the AEA has addressed source materials in much the same manner since 1954 and even since 1946. The AEA defines "source material" to mean

> (1) uranium, thorium, or any other material which is determined by the [NRC] pursuant to the provisions of section 2091 of this title to be source material; or (2) ores containing one or more of the foregoing materials, in such concentration as the [NRC] may by regulation determine from time to time.

42 U.S.C. § 2014(z); *see also* ch. 1073, § 11(s), 68 Stat. at 924; ch. 724, § 5(b)(1), 60 Stat. at 761. An NRC license is required to

> transfer or receive in interstate commerce, transfer, deliver, receive possession of or title to, or import into or export from the United States any source material *after removal from its place of deposit in nature*, except that licenses shall not be required for quantities of source material which, in the opinion of the [NRC], are unimportant.

42 U.S.C. § 2092 (emphasis added); *see also* ch. 1073, § 62, 68 Stat. at 932; ch. 724, § 5(b)(2), 60 Stat. at 761. The NRC has authority and discretion to issue

> rules, regulations, or orders requiring reports of ownership, possession, extraction, refining, shipment, or other handling of source material . . . , except that such reports shall not be required with respect to (a) any source material *prior to removal from its place of deposit in nature*, or (b) quantities of source material which in the opinion of the [NRC] are unimportant or the reporting of which will discourage independent prospecting for new deposits.

42 U.S.C. § 2095 (emphasis added); *see also* ch. 1073, § 65, 68 Stat. at 933; ch. 724, § 5(b)(4), 60 Stat. at 761-62. The AEA confers no federal regulatory or licensing authority over nonfederal uranium deposits or their conventional mining. It has never done so.

As traditionally understood, the Commonwealth of Virginia is the "paramount proprietor[]" over its mineral lands. *See* 1 Curtis H. Lindley, *A Treatise on the American Law Relating to Mines and Mineral Lands* §§ 18, 19, at 38-39 (3d ed. 1914) (1988 reprint); *cf. Kidd v. Pearson*, 128 U.S. 1, 21 (1888) (including "mining" among the "interests which in their nature are, and must be, local in all the details of their successful management").[7] The Virginia General Assembly has enacted schemes by which one must apply to an appropriate state agency for a permit to mine in the Commonwealth. *See, e.g.*, Va. Code Ann. § 45.1-161.57 et seq. (coal); *id.* § 45.1-161.292:30 et seq. (mineral); *id.* § 45.1-181.

By emergency legislation of April 7, 1982, the General Assembly forbade any state agency's acceptance of a uranium-mining permit application until July 1, 1983. Act of Apr. 7, 1982, ch. 269, 1982 Va. Acts 426, 428 (codified as amended at Va. Code Ann. § 45.1-283). Enacted findings and policies undergirded the moratorium and related statutes. Notable "purposes" were "to

---

[7] The Commonwealth has accomplished "primacy" under the Surface Mining Control and Reclamation Act of 1977, 30 U.S.C. § 1201 et seq., as amended. 13A *Michie's Jurisprudence of Virginia & West Virginia* § 74.1, at 126 (Repl. Vol. 2011).

assure," within proper state or local authority, "that uranium mining and milling w[ould] be subject to statutes and regulations which protect the environment and the health and safety of the public." *Id.* at 427 (codified at Va. Code Ann. § 45.1-272).[8] Notable among the findings was "that the adoption of additional statutes during the 1983 Session . . . may be necessary in order to assure that any uranium mining and milling which may occur in the Commonwealth will not adversely affect the environment or the public health and safety." *Id.*[9]

During the 1983 session, the General Assembly amended the moratorium statute to the following, which remains unchanged:

> Notwithstanding any other provision of law, permit applications for uranium mining shall not be accepted by any agency of the Commonwealth prior to July 1, 1984, and until a program for permitting uranium mining is established by statute. For the purpose of construing § 45.1-180(a), uranium mining shall be deemed to have a significant effect on the surface.

---

[8] Although not set out in the official Code, these policies and findings remain law. *See* Editor's Note *to* Va. Code Ann. § 45.1-272 (Repl. Vol. 2013).

[9] The General Assembly has enacted no statute purporting to regulate uranium milling.

Act of Feb. 24, 1983, ch. 3, 1983 Va. Acts 3, 3 (codified at Va. Code Ann. § 45.1-283). No Virginia statute has established a program for permitting uranium mining.

The AEA institutes no permitting regime respecting nonfederal uranium deposits' conventional mining and does not otherwise regulate nonfederal uranium deposits or their conventional mining. Fairly stated, these are the matters on which the Commonwealth, by Va. Code Ann. § 45.1-283, has asserted the right to act. Va. Code Ann. § 45.1-283 survives the test of field preemption.

Plaintiffs acknowledge that the AEA does not address a nonfederal uranium deposit's conventional mining;[10] however, they contend that the General Assembly impermissibly premised Va. Code Ann. § 45.1-1283 on radiological safety concerns – what they identify as the pertinent regulatory field. Plaintiffs focus the Court on 42 U.S.C. § 2021(k): "Nothing in this section shall be construed to affect the authority of any state or local agency to regulate activities for purposes other than

---

[10] Plaintiffs cast the AEA as intentionally omitting conventional mining of nonfederal uranium deposits, given Congress' perception that it posed no serious radiological safety risks and Congress' desire to encourage the development of atomic energy. Plaintiffs cite legislative materials for these propositions, but the cited materials do not go so far as to evince preemptive intent from the omission. *See Uranium Mill Tailings Control: Hearings on H.R. 13382, H.R. 12938, H.R. 12535, and H.R. 13049 Before the H. Subcomm. on Energy & the Env't*, 95th Cong. 159 (1978) (statement of George Gleason, Exec. Vice President & Gen. Counsel, Am. Nuclear Energy Council); S. Rep. No. 79-1211, at 18 (1946); *Atomic Energy: Hearing on H.R. 4280 Before the H. Comm. on Military Affairs*, 79th Cong. 125-126 (1945).

protection against radiation hazards." They seem to read this language as signifying that no state may regulate *any* activity with the intent to protect against radiation hazards, unless by agreement with the NRC. Although the General Assembly enacted Va. Code Ann. § 45.1-283 out of concern for uranium (and, therefore, radiological) safety, *see* ch. 269, 1982 Va. Acts at 427 (codified at Va. Code Ann. § 45.1-272), Plaintiffs misread 42 U.S.C. § 2021(k).

Of nearest pertinence to this litigation, 42 U.S.C. § 2021(k)'s encompassing section is meant "to clarify" the states' and the NRC's "respective responsibilities under [the AEA] . . . with respect to the regulation of . . . source . . . materials," 42 U.S.C. § 2021(a)(1), and "to establish procedures and criteria for discontinuance of certain of the [NRC's] regulatory responsibilities with respect to . . . source . . . materials, and the assumption thereof by the States," *id.* § 2021(a)(4). Under the enacted scheme, the NRC may agree with a state to discontinue certain regulatory authority,[11] which the state will assume, over a source material. *Id.* § 2021(b)(2). With an agreement, a state will have "authority to regulate the materials covered by the agreement for the protection of the public health and safety from radiation hazards." *Id.* With or without an agreement, a state has authority to regulate any source material for other purposes. *See id.* § 2021(k). Read

---

[11] For example, the NRC may not discontinue, for state assumption, authority over the export or import of source materials into the United States or the disposal of source materials into the ocean or sea. 42 U.S.C. § 2021(c)(2)-(3); *see also id.* § 2021(c)(4).

together, these provisions reasonably imply – at most – that, lacking a discontinuance-and-assumption agreement, a state has no authority to protect the public's health and safety from radiation hazards by regulating a source material under the NRC's authority.

These provisions of 42 U.S.C. § 2021 are not original to the AEA but were added by Act of September 23, 1959, Pub. L. No. 86-373, 73 Stat. 688. While considering this legislation, Congress was aware that the AEA did not regulate nonfederal uranium deposits or their conventional mining.[12] Clarifying its intent to take no

---

[12] The proposition was repeated in pertinent congressional hearings. *Federal-State Relationships in the Atomic Energy Field: Hearings Before the J. Comm. on Atomic Energy*, 86th Cong. 60 (1959) (statement of Robert Lowenstein, Office of Gen. Counsel, Atomic Energy Comm'n) ("With respect to mining as such, the [AEC] has taken the position, I believe, in an earlier hearing, and an opinion was furnished by the general counsel, that the [AEC] under the [AEA] does not regulate mining."); *id.* at 83 (written statement of H.L. Price, Director, Div. of Licensing & Regulation, Atomic Energy Comm'n) ("The [AEC] does not have regulatory jurisdiction over such other sources of radiation as X-ray equipment or radium or over the mining of uranium."); *id.* at 130 (statement of Lee M. Hydeman, Co-Director, Atomic Energy Research Project, Univ. of Mich. Law Sch.) ("The AEC does not exercise any regulatory control over the mining of uranium ore."); *id.* at 257 (statement of P. W. Jacoe, Colo. State Dep't of Pub. Health) ("As you know, the [AEC's] regulatory powers regarding radiation hazards apply to the uranium mills and processing plants but not to the mines."); *id.* at 329 (statement of Rep. Wayne N. Aspinall) (describing "the mining" as "an area where the Federal Government has not assumed and undoubtedly will not assume any jurisdiction"); *id.* at 340 (statement of John Curran, Dep't of Legis., AFL-CIO) ("While it does issue licenses to mining concerns governing possession and transfer of source materials, the [AEC] exercises no regulatory power over actual mining operations."); *id.* at 341

greater regulatory role over any source (or other) material, the Joint Committee on Atomic Energy redrafted an earlier version of the eventually-enacted bill "to make it clear that it d[id] not attempt to regulate materials which the AEC d[id] not [then] regulate under the Atomic Energy Act of 1954." S. Rep. No. 86-870 (1959), *as reprinted in* 1959 U.S.C.C.A.N. 2872, 2875, 2880. The Joint Committee observed that "[s]uch other sources such as x-ray machines and radium also present substantial radiation hazards, but have been for many years the responsibility of the states, the public health service, or other agencies." *Id.* at 2875. Clearly, the Joint Committee and the enacting Congress intended to similarly respect the states' and other agencies' preexisting authority over nonfederal uranium deposits and their conventional mining.

Congress did not intend 42 U.S.C. § 2021 to broaden the preemptive field respecting source materials so as to include materials outside of the NRC's

---

(statement of Rep. Chet Holifield) ("The [AEC] exercises no regulatory powers over mining operations. This is true."); *see id.* at 350 (written statement submitted by John Curran, Dep't of Legis., AFL-CIO) (criticizing the proposed legislation for failing to address "the most important sources of man-made radiation," including "uranium mines" among others, "none of which are presently under the jurisdiction of the [AEC], nor any provision being made that certain of these sources be controlled by State programs as a condition of approval of the Federal-State agreement by the [AEC]"); *cf. id.* at 447-48 (statement of Leo Goodman, United Auto. Workers) (asserting, to Congressman Holifield's doubt, that the AEC had regulatory authority over uranium mining); *id.* (letter of Leo Goodman, United Auto. Workers) (following up to offer mining statutes – not the AEA – as authority).

regulatory authority. The statute's text and history clarify that the NRC's agreement is neither conceived nor necessary for a state to regulate a material or activity traditionally (or otherwise) under its authority and not the NRC's. The discontinuance-and-assumption scheme does not relate to the authority on which Va. Code Ann. § 45.1-283 rests.

Attempting to identify Va. Code Ann. § 45.1-283's intrusion into a federal field of radiological safety concerns, Plaintiffs invoke various precedents but rely largely on *Pacific Gas & Electric Co.*, 461 U.S. 19.[13]

---

[13] Of the decisions Plaintiffs invoke, none answers the question whether the AEA preempts a state's regulation or prohibition of a nonfederal uranium deposit's conventional mining.

Deserving closer scrutiny, Plaintiffs argue by analogy from *Skull Valley Band of Goshute Indians v. Nielson*, 376 F.3d 1223 (10th Cir. 2004), where the court held that the AEA and the Nuclear Waste Policy Act of 1982, 42 U.S.C. § 10101 et seq., preempted Utah laws on, among other things, roads and municipal services. Plaintiffs identify these road laws and one of the municipal-services laws as addressing matters within the heart of a state's traditional police powers but preempted, nonetheless, for their underlying purposes of radiological safety. The analogy is too loose to guide the analysis here.

The Utah laws targeted a proposed storage facility for spent nuclear fuel, for which a federal license was pending. *See id* at 1227-28. "[I]n order to prevent the transportation and storage of [spent nuclear fuel] in Utah," the road legislation, Utah Code Ann. §§ 54-4-15, 72-3-301, 72-4-125(4), 78-34-6(5), "jeopardiz[ed] access to the proposed . . . facility" and, by imposing a present and "substantial obstacle to the construction of a[spent nuclear fuel] facility," "directly and substantially affect[ed] decisions regarding radiological safety levels by those operating nuclear facilities." *Skull Valley Band of Goshute Indians*, 376 F.3d at 1230, 1251-53. The pertinent municipal-services law, Utah Code Ann.

A court must heed the cautions that "'[g]eneral expressions, in every opinion, are to be taken in connection with the case in which those expressions are used,'" *Ameur v. Gates*, 759 F.3d 317, 324 (4th Cir. 2014) (quoting *Ark. Game & Fish Comm'n v. United States*, 133 S. Ct. 511, 520 (2012)), and that "dicta . . . cannot serve as a source of binding authority in American jurisprudence," *United States v. Pasquantino*, 336 F.3d 321, 329 (4th Cir. 2003) (en banc), *aff'd*, 544 U.S. 349 (2005). Of special concern here, the Supreme Court's AEA preemption decisions consider a field respecting the construction or operation of nuclear-power facilities, not source materials, *see English*, 496 U.S. 72; *Silkwood v. Kerr-McGee Corp.*, 464 U.S. 238 (1984); *Pac. Gas & Elec. Co.*, 461 U.S. 190; *N. States Power Co. v. Minnesota*, 405 U.S. 1035 (1972) (mem.), *aff'g* 447 F.2d 1143 (8th Cir. 1971), and the decisions,

---

§ 17-34-1(3), prohibited any county from "provid[ing], contract[ing] to provide, or agree[ing] in any manner to provide municipal-type services . . . to any area under consideration for a storage facility or transfer facility for the placement of high-level nuclear waste, or greater than class C radioactive waste" and from "seek[ing] to fund services for these facilities by" tax, service charge, or fee. The statute plainly targeted nuclear-waste facilities and only "regulate[d] law enforcement and other similar matters as a means of regulating radiological hazards." *Skull Valley Band of Goshute Indians*, 376 F.3d at 1248.

In enacting Va. Code Ann. § 45.1-283, the General Assembly did not extend its traditional authority so as to reach activities subject to the NRC's regulation. Utah's legislature, however, specifically targeted its traditional police powers so as to impede and prevent a would-be federal licensee's activities under a potential NRC license. *Skull Valley Band of Goshute Indians* does not reveal Va. Code Ann. § 45.1-283 to intrude into an AEA field.

rendered on full briefing and argument, differ in dispositive reasoning, *compare English*, 496 U.S. at 84-85 (holding that a tort arising from whistleblower retaliation at a nuclear facility was insufficiently related to radiological safety aspects in the facility's operation), *and Silkwood*, 464 U.S. at 256 (holding that legislative history revealed no congressional intent to preempt punitive damages for torts arising from an employee's radioactive incident at a nuclear powerplant), *with Pac. Gas & Elec. Co.*, 461 U.S. at 216 (holding that a limitation on new nuclear powerplants was economic in nature).

In *Pacific Gas & Electric Co.*, 461 U.S. at 222, the Supreme Court held that the AEA did not preempt Cal. Pub. Res. Code § 25524.2, *as enacted by* Act of June 3, 1976, ch. 196, § 1, 1976 Cal. Stat. 378. As material to the Supreme Court's inquiry, that statute generally provided,

> No nuclear fission thermal powerplant . . . shall be permitted land use in the state, or where applicable, be certified by the [State Energy Resources and Development Commission] until . . . :
>
> (a) The commission finds that . . . [the NRC] has approved and there exists a demonstrated technology or means for the disposal of high-level nuclear waste.
>
> (b) The commission has reported its findings and the reasons therefor . . . to the Legislature. . . . The commission may proceed to certify nuclear fission thermal powerplants

> 100 legislative days after reporting its findings unless within [that period] either house of the Legislature . . . disaffirm[s] the findings. . . .

Ch. 196, § 1, 1976 Cal. Stat. at 378. Then, as now, the AEA provided that the NRC would "retain authority and responsibility with respect to regulation of . . . the construction and operation of any production or utilization facility . . . ," 42 U.S.C. § 2021(c)(1), including a nuclear powerplant subject to Cal. Pub. Res. Code § 25524.2, *see id.* § 2014(v), (cc).

The power company and supporting amici curiae argued that Cal. Pub. Res. Code § 25524.2 "regulate[d] construction of nuclear plants" and was "allegedly predicated on safety concerns," "ignor[ing] the division between federal and state authority created by the [AEA], and fall[ing] within the field that the Federal Government ha[d] preserved for its own exclusive control." *Pac. Gas & Elec. Co.*, 461 U.S. at 204.

At the outset, the Supreme Court observed that the AEA "does not at any point expressly require the States to construct or authorize nuclear power plants or prohibit the States from deciding, as an absolute or conditional matter, not to permit the construction of any further reactors." *Id.* at 205. It rejected the power company's argument that the AEA "intended to preserve the Federal Government as the sole regulator of all matters nuclear" and, instead, read the AEA to evince Congress' "inten[t] that the Federal Government should regulate the radiological safety aspects

involved in the construction and operation of a nuclear plant, but that the States retain their traditional responsibility in the field of regulating electrical utilities for determining questions of need, reliability, cost and other related state concerns." *Id. Compare* 42 U.S.C. § 2018, *with id.* § 2021(c)(1). After further surveying the AEA and its history, the Supreme Court summarized "the dual regulation of nuclear-powered electricity generation: the Federal Government maintains complete control of the safety and 'nuclear' aspects of energy generation; the States exercise their traditional authority over the need for additional generating capacity, the type of generating facilities to be licensed, land use, ratemaking, and the like." *Pac. Gas & Elec. Co.*, 461 U.S. at 211-12. The Supreme Court considered the "more difficult" question to be Cal. Pub. Res. Code § 25524.2's "constru[ction] and classifi[cation]." *Id.* at 212.

The Supreme Court read Cal. Pub. Res. Code § 25524.2 as "not seek[ing] to regulate the construction or operation of a nuclear powerplant" and added that a statute seeking to do so "would clearly be impermissible . . . even if enacted out of nonsafety concerns" because it would "directly conflict with the NRC's exclusive authority over plant construction and operation." *Id.* at 212. Rejecting California's "broad[]" argument "that although safety regulation of nuclear plants by States is forbidden, a State may completely prohibit new construction until its safety concerns are satisfied by the Federal Government," the Supreme

Court opined that "the Federal Government ha[d] occupied the entire field of nuclear safety concerns, except the limited powers expressly ceded to the States" and added that "[a] State moratorium on nuclear construction grounded in safety concerns falls squarely within the prohibited field." *Id.* at 212-13. The Supreme Court considered it "necessary to determine" whether Cal. Pub. Res. Code § 25524.2 had "a nonsafety rationale." *See id.* at 213. Because "the rationale for enacting § 25524.2" was an "economic purpose," the Supreme Court concluded that "the statute l[ay] outside the occupied field of nuclear safety regulation." *Id.* at 216.

Plaintiffs invoke *Pacific Gas & Electric Co.* largely for its language, "the Federal Government has occupied the entire field of nuclear safety concerns, except the limited powers expressly ceded to the States," *id.* at 212, and arguing by analogy, they connect it to the Supreme Court's suggestion that Cal. Pub. Res. Code § 25524.2 would have been preempted if grounded on radiological safety concerns. In view of the Supreme Court's earlier assertion that the AEA nowhere expressly requires a state to construct or authorize nuclear powerplants, *id.* at 205, Plaintiffs argue that Va. Code Ann. § 45.1-283, although addressing a matter that the AEA does not, is preempted if the General Assembly enacted it out of concern for radiological safety.

Pacific Gas & Electric Co. is readily distinguishable from the present suit. Cal. Pub. Res. Code § 25524.2 regulated an activity that the AEA clearly committed to the NRC's regulatory authority – the construction of

a nuclear powerplant. *See* 42 U.S.C. § 2021(c)(1).[14] Because Cal. Pub. Res. Code § 25524.2 reached into a field under the NRC's regulatory authority, as expressly provided for by the AEA, it was necessary to determine the California statute's purpose. *See id.* § 2021(k). Here, the AEA is silent and confers no authority to the NRC respecting the activity or material on which the Commonwealth has asserted the right to act. Accordingly, there is no occasion to inquire into Va. Code Ann. § 45.1-283's purpose.

Even setting that distinction aside, by suggesting that Cal. Pub. Res. Code § 25524.2 would have been preempted if grounded in radiological safety concerns, the Supreme Court opined on a hypothetical statute not before it. This was dictum. *See id.* at 223-24 (Blackmun, J., concurring in part and concurring in judgment) ("Since the Court finds that California was not so motivated, this suggestion is unnecessary to

---

[14] The Supreme Court's language seems at odds. After asserting that Cal. Pub. Res. Code § 25524.2 did not seek to regulate nuclear-powerplant construction, *Pac. Gas & Elec. Co.*, 461 U.S. at 212, the Supreme Court justified its inquiry into nonsafety rationale by characterizing the statute as "[a] state moratorium on nuclear construction . . . " and "[a] state prohibition on nuclear construction . . . ," *id.* at 213. Regardless whether the Supreme Court, in a select phrase, considered such a state moratorium or prohibition on nuclear-powerplant construction *not* to be a "regulation" of nuclear-powerplant construction, the competing language and pertinent statutes clarify how the Supreme Court reached the inquiry into statutory purpose and **why** that inquiry is immaterial here. *Cf.* 42 U.S.C. § 2021(c)(1); *Black's Law Dictionary* (10th ed. 2014) (defining "regulation" as "[c]ontrol over something by rule or restriction").

the Court's holding.");[15] *cf. English*, 496 U.S. at 84 n.7 (acknowledging the *Pacific Gas & Electric Co.* concurrence's observation but reserving decision whether the majority's suggestion was dictum). Rather than be betrayed into such an abstract analysis as extrapolating *Pacific Gas & Electric Co.*'s dicta and selecting among the opinion's (at times) seemingly-inconsistent language,[16] this Court will adhere to the surer conclusion by scrutinizing the statutes uniquely before it and addressing their interaction under intelligible and longstanding principles of preemption.

Plaintiffs also fail to cast Va. Code Ann. § 45.1-283 as intruding into the AEA's regulatory fields respecting byproduct materials, milling, or mill tailings' management. Va. Code Ann. § 45.1-283 directly prohibits a Virginia agency's acceptance of a permit application to mine uranium and, proximately, prevents conventional mining of nonfederal uranium deposits. The AEA regulates none of these activities or materials.[17] The

---

[15] Although the Supreme Court asserted that the inquiry into nonsafety rationale was "necessary," *Pac. Gas & Elec. Co.*, 461 U.S. at 213, such an assertion "cannot transmute dictum into decision," *see United States v. Rubin*, 609 F.2d 51, 69 (2d Cir. 1979) (Friendly, J., concurring).

[16] It is notable, for instance, that the majority opinion "recognizes the limited nature of the federal role but then describes that role in more expansive terms." *Pacific Gas & Elec. Co.*, 461 U.S. at 224 n.1 (Blackmun, J., concurring in part and concurring in judgment) (citations omitted); *see also supra* note 14.

[17] The definition of "byproduct materials" includes neither a nonfederal uranium deposit nor any wastes from such a deposit's conventional mining. *See* 42 U.S.C. § 2014(e). Nor are those materials within definitions, for purposes of mill tailings' radiation

inability to conventionally mine a nonfederal uranium deposit might obviate one's decision to mill and manage the mill tailings on an active uranium-mining site; however, such a consequence is too far attenuated from the matter on which the General Assembly has asserted the right to act and on which Congress, by the AEA, has not.

2. Va. Code Ann. § 45.1-283 does not obstruct the realization of Congress' purposes and objectives behind the AEA.[18]

"Obstacle preemption is a type of conflict preemption. . . . It applies 'where state law stands as an obstacle to the accomplishment and execution of the full purposes and objectives of Congress.'" *Columbia Venture, LLC v. Dewberry & Davis, LLC*, 604 F.3d 824, 829 (4th Cir.2010) (quoting *Freightliner Corp. v. Myrick*, 514 U.S. 280, 287 (1995)).

> What is a sufficient obstacle is a matter of judgment, to be informed by examining the federal statute as a whole and identifying its purpose and intended effects. A state law may pose an obstacle to federal purposes by interfering with the accomplishment of Congress's actual objectives, or by interfering with the

---

control, of "residual radioactive material" or "tailings." *See id.* § 7911(7), (8).

[18] To whatever extent Plaintiffs claim conflict preemption's impossibility subset (*see* Compl. ¶ 110), it similarly fails. It is not the case that the AEA requires Plaintiffs to do one thing and Va. Code Ann. § 45.1-283, the opposite.

> methods that Congress selected for meeting those legislative goals.

PPL EnergyPlus, LLC, 753 F.3d at 478 (citations and internal quotation marks omitted). "In making this determination, a court 'should not seek out conflicts . . . where none clearly exists.'" *H & R Block E. Enters., Inc. v. Raskin*, 591 F.3d 718, 723 (4th Cir. 2010) (omission in original) (quoting *College Loan Corp. v. SLM Corp.*, 396 F.3d 588, 598 (4th Cir. 2005)); *see also English*, 496 U.S. at 90.

Plaintiffs contend that Va. Code Ann. § 45.1-283 conflicts with "a primary purpose of the [AEA] . . . the promotion of nuclear power." *Pac. Gas & Elec. Co.*, 461 U.S. at 221. They also assert that, by obviating potential on-site milling and mill-tailings management, Va. Code Ann. § 45.1-283 conflicts with Congress' judgment that those activities may proceed.[19] Congress has broadly stated a policy promoting atomic energy, *see* 42 U.S.C. § 2011, but it has evinced no purpose or objective that nonfederal uranium deposits be conventionally mined.[20] Congress has provided for the regulation of milling and mill tailings, *see id.* §§ 2014(e)(2), 2111-14; *id.* § 7901 et seq., but it has evinced no purpose or objective that nonfederal uranium deposits should be

---

[19] Plaintiffs also contend that Va. Code Ann. § 45.1-283 reflects an attempt to avoid the AEA's discontinuance-and-assumption scheme. As explained, that scheme does not relate to the authority on which Va. Code Ann. § 45.1-283 rests. *See supra* pgs. 12-14.

[20] Should the NRC wish that a nonfederal uranium deposit be conventionally mined, it has unobstructed means for seeing that it occur. *See* 42 U.S.C. § 2096.

conventionally mined for milling's and mill-tailings management's on-site accompaniment. Va. Code Ann. § 45.1-283 does not, in any meaningful way, obstruct the realization of Congress' purposes and objectives behind the AEA.

CONCLUSION

The Governor, the two Cabinet Secretaries, and the DEQ officials are insufficiently connected to Va. Code Ann. § 45.1-283's implementation and, accordingly, are immune from suit. I will grant their Rule 12(b)(1) Motion to Dismiss. Because the AEA does not preempt Va. Code Ann. § 45.1-283, I will grant Defendants' Rule 12(b)(6) Motion to Dismiss. These dispositions moot Plaintiffs' Motion for Summary Judgment, and it will be denied as such.

The clerk is directed to forward a copy of this Memorandum Opinion and accompanying Order to all counsel of record.

Entered this 2nd day of December, 2015.

s/Jackson L. Kiser
SENIOR UNITED
STATES DISTRICT JUDGE

U.S. Const. art. VI, § 2

This Constitution, and the Laws of the United States which shall be made in Pursuance thereof; and all Treaties made, or which shall be made, under the Authority of the United States, shall be the supreme Law of the Land; and the Judges in every State shall be bound thereby, any Thing in the Constitution or Laws of any State to the Contrary notwithstanding.

---

42 U.S.C. § 2011
Congressional declaration of policy

Atomic energy is capable of application for peaceful as well as military purposes. It is therefore declared to be the policy of the United States that –

(a) the development, use, and control of atomic energy shall be directed so as to make the maximum contribution to the general welfare, subject at all times to the paramount objective of making the maximum contribution to the common defense and security; and

(b) the development, use, and control of atomic energy shall be directed so as to promote world peace, improve the general welfare, increase the standard of living, and strengthen free competition in private enterprise.

---

42 U.S.C. § 2012
Congressional findings

The Congress of the United States makes the following findings concerning the development, use, and control of atomic energy:

(a) The development, utilization, and control of atomic energy for military and for all other purposes are vital to the common defense and security.

. . .

(c) The processing and utilization of source, byproduct, and special nuclear material affect interstate and foreign commerce and must be regulated in the national interest.

(d) The processing and utilization of source, byproduct, and special nuclear material must be regulated in the national interest and in order to provide for the common defense and security and to protect the health and safety of the public.

(e) Source and special nuclear material, production facilities, and utilization facilities are affected with the public interest, and regulation by the United States of the production and utilization of atomic energy and of the facilities used in connection therewith is necessary in the national interest to assure the common defense and security and to protect the health and safety of the public.

(f) The necessity for protection against possible interstate damage occurring from the operation of facilities for the production or utilization of source or special nuclear material places the operation of those facilities in interstate commerce for the purposes of this chapter.

(g) Funds of the United States may be provided for the development and use of atomic energy under conditions which will provide for the common defense and security and promote the general welfare.

. . .

(h) In order to protect the public and to encourage the development of the atomic energy industry, in the interest of the general welfare and of the common defense and security, the United States may make funds available for a portion of the damages suffered by the public from nuclear incidents, and may limit the liability of those persons liable for such losses.

---

42 U.S.C. § 2013

Purpose of chapter

It is the purpose of this chapter to effectuate the policies set forth above by providing for –

(a) a program of conducting, assisting, and fostering research and development in order to encourage maximum scientific and industrial progress;

. . .

(c) a program for Government control of the possession, use, and production of atomic energy and special nuclear material, whether owned by the Government or others, so directed as to make the maximum contribution to the common defense and security and the national welfare, and to provide continued assurance of the Government's ability to enter into and enforce agreements with nations or groups of nations for the control of special nuclear materials and atomic weapons;

(d) a program to encourage widespread participation in the development and utilization of atomic energy for peaceful purposes to the maximum extent consistent with the common defense and security and with the health and safety of the public;

(e) a program of international cooperation to promote the common defense and security and to make available to cooperating nations the benefits of peaceful applications of atomic energy as widely as expanding technology and considerations of the common defense and security will permit. . . .

---

42 U.S.C. § 2014

Definitions

The intent of Congress in the definitions as given in this section should be construed from the words or phrases used in the definitions. As used in this chapter:

. . .

(e) The term "byproduct material" means –

(1) any radioactive material (except special nuclear material) yielded in or made radioactive by exposure to the radiation incident to the process of producing or utilizing special nuclear material;

(2) the tailings or wastes produced by the extraction or concentration of uranium or thorium from any ore processed primarily for its source material content;

(3)(A) any discrete source of radium-226 that is produced, extracted, or converted after extraction, before, on, or after August 8, 2005, for use for a commercial, medical, or research activity; or

(B) any material that –

(i) has been made radioactive by use of a particle accelerator; and

(ii) is produced, extracted, or converted after extraction, before, on, or after August 8, 2005, for use for a commercial, medical, or research activity; and

(4) any discrete source of naturally occurring radioactive material, other than source material, that –

(A) the Commission, in consultation with the Administrator of the Environmental Protection Agency, the Secretary of Energy, the Secretary of Homeland Security, and the head of any other appropriate Federal agency, determines would pose a threat similar to the threat posed by a discrete

source of radium-226 to the public health and safety or the common defense and security; and

(B) before, on, or after August 8, 2005, is extracted or converted after extraction for use in a commercial, medical, or research activity.

. . .

(p) The term "licensed activity" means an activity licensed pursuant to this chapter and covered by the provisions of section 2210(a) of this title.

. . .

(u) The term "produce", when used in relation to special nuclear material, means (1) to manufacture, make, produce, or refine special nuclear material; (2) to separate special nuclear material from other substances in which such material may be contained; or (3) to make or to produce new special nuclear material.

(v) The term "production facility" means (1) any equipment or device determined by rule of the Commission to be capable of the production of special nuclear material in such quantity as to be of significance to the common defense and security, or in such manner as to affect the health and safety of the public; or (2) any important component part especially designed for such equipment or device as determined by the Commission. Except with respect to the export of a uranium enrichment production facility, such term as used in subchapters IX and XV of this division shall not include any equipment or device (or important component part especially designed for such equipment or

device) capable of separating the isotopes of uranium or enriching uranium in the isotope 235.

. . .

(z) The term "source material" means (1) uranium, thorium, or any other material which is determined by the Commission pursuant to the provisions of section 2091 of this title to be source material; or (2) ores containing one or more of the foregoing materials, in such concentration as the Commission may by regulation determine from time to time.

(aa) The term "special nuclear material" means (1) plutonium, uranium enriched in the isotope 233 or in the isotope 235, and any other material which the Commission, pursuant to the provisions of section 2071 of this title, determines to be special nuclear material, but does not include source material; or (2) any material artificially enriched by any of the foregoing, but does not include source material.

. . .

(cc) The term "utilization facility" means (1) any equipment or device, except an atomic weapon, determined by rule of the Commission to be capable of making use of special nuclear material in such quantity as to be of significance to the common defense and security, or in such manner as to affect the health and safety of the public, or peculiarly adapted for making use of atomic energy in such quantity as to be of significance to the common defense and security, or in such manner as to affect the health and safety of the public;

or (2) any important component part especially designed for such equipment or device as determined by the Commission.

. . .

---

42 U.S.C. § 2018

Agency jurisdiction

Nothing in this chapter shall be construed to affect the authority or regulations of any Federal, State, or local agency with respect to the generation, sale, or transmission of electric power produced through the use of nuclear facilities licensed by the Commission: *Provided*, That this section shall not be deemed to confer upon any Federal, State, or local agency any authority to regulate, control, or restrict any activities of the Commission.

---

42 U.S.C. § 2021

Cooperation with States

(a) Purpose

It is the purpose of this section –

(1) to recognize the interests of the States in the peaceful uses of atomic energy, and to clarify the respective responsibilities under this chapter of the States and the Commission with respect to the

regulation of byproduct, source, and special nuclear materials;

(2) to recognize the need, and establish programs for, cooperation between the States and the Commission with respect to control of radiation hazards associated with use of such materials;

(3) to promote an orderly regulatory pattern between the Commission and State governments with respect to nuclear development and use and regulation of byproduct, source, and special nuclear materials;

(4) to establish procedures and criteria for discontinuance of certain of the Commission's regulatory responsibilities with respect to byproduct, source, and special nuclear materials, and the assumption thereof by the States;

(5) to provide for coordination of the development of radiation standards for the guidance of Federal agencies and cooperation with the States; and

(6) to recognize that, as the States improve their capabilities to regulate effectively such materials, additional legislation may be desirable.

(b) Agreements with States

Except as provided in subsection (c) of this section, the Commission is authorized to enter into agreements with the Governor of any State providing for discontinuance of the regulatory authority of the Commission under subchapters V, VI, and VII of this division, and

section 2201 of this title, with respect to any one or more of the following materials within the State:

(1) Byproduct materials (as defined in section 2014(e) of this title).

(2) Source materials.

(3) Special nuclear materials in quantities not sufficient to form a critical mass.

During the duration of such an agreement it is recognized that the State shall have authority to regulate the materials covered by the agreement for the protection of the public health and safety from radiation hazards.

(c) Commission regulation of certain activities

No agreement entered into pursuant to subsection (b) of this section shall provide for discontinuance of any authority and the Commission shall retain authority and responsibility with respect to regulation of –

(1) the construction and operation of any production or utilization facility or any uranium enrichment facility;

(2) the export from or import into the United States of byproduct, source, or special nuclear material, or of any production or utilization facility;

(3) the disposal into the ocean or sea of byproduct, source, or special nuclear waste materials as defined in regulations or orders of the Commission;

(4) the disposal of such other byproduct, source, or special nuclear material as the Commission determines by regulation or order should, because of the hazards or potential hazards thereof, not be so disposed of without a license from the Commission.

The Commission shall also retain authority under any such agreement to make a determination that all applicable standards and requirements have been met prior to termination of a license for byproduct material, as defined in section 2014(e)(2) of this title. Notwithstanding any agreement between the Commission and any State pursuant to subsection (b) of this section, the Commission is authorized by rule, regulation, or order to require that the manufacturer, processor, or producer of any equipment, device, commodity, or other product containing source, byproduct, or special nuclear material shall not transfer possession or control of such product except pursuant to a license issued by the Commission.

(d) Conditions

The Commission shall enter into an agreement under subsection (b) of this section with any State if –

(1) The Governor of that State certifies that the State has a program for the control of radiation hazards adequate to protect the public health and safety with respect to the materials within the State covered by the proposed agreement, and that the State desires to assume regulatory responsibility for such materials; and

(2) the Commission finds that the State program is in accordance with the requirements of subsection (o) of this section and in all other respects compatible with the Commission's program for the regulation of such materials, and that the State program is adequate to protect the public health and safety with respect to the materials covered by the proposed agreement.

(e) Publication in Federal Register; comment of interested persons

(1) Before any agreement under subsection (b) of this section is signed by the Commission, the terms of the proposed agreement and of proposed exemptions pursuant to subsection (f) of this section shall be published once each week for four consecutive weeks in the Federal Register; and such opportunity for comment by interested persons on the proposed agreement and exemptions shall be allowed as the Commission determines by regulation or order to be appropriate.

(2) Each proposed agreement shall include the proposed effective date of such proposed agreement or exemptions. The agreement and exemptions shall be published in the Federal Register within thirty days after signature by the Commission and the Governor.

(f) Exemptions

The Commission is authorized and directed, by regulation or order, to grant such exemptions from the licensing requirements contained in subchapters V, VI, and VII of this division, and from its regulations applicable

to licensees as the Commission finds necessary or appropriate to carry out any agreement entered into pursuant to subsection (b) of this section.

(g) Compatible radiation standards

The Commission is authorized and directed to cooperate with the States in the formulation of standards for protection against hazards of radiation to assure that State and Commission programs for protection against hazards of radiation will be coordinated and compatible.

(h) Consultative, advisory, and miscellaneous functions of Administrator of Environmental Protection Agency

The Administrator of the Environmental Protection Agency shall consult qualified scientists and experts in radiation matters, including the President of the National Academy of Sciences, the Chairman of the National Committee on Radiation Protection and Measurement, and qualified experts in the field of biology and medicine and in the field of health physics. The Special Assistant to the President for Science and Technology, or his designee, is authorized to attend meetings with, participate in the deliberations of, and to advise the Administrator. The Administrator shall advise the President with respect to radiation matters, directly or indirectly affecting health, including guidance for all Federal agencies in the formulation of radiation standards and in the establishment and execution of programs of cooperation with States. The

Administrator shall also perform such other functions as the President may assign to him by Executive order.

(i) Inspections and other functions; training and other assistance

The Commission in carrying out its licensing and regulatory responsibilities under this chapter is authorized to enter into agreements with any State, or group of States, to perform inspections or other functions on a cooperative basis as the Commission deems appropriate. The Commission is also authorized to provide training, with or without charge, to employees of, and such other assistance to, any State or political subdivision thereof or group of States as the Commission deems appropriate. Any such provision or assistance by the Commission shall take into account the additional expenses that may be incurred by a State as a consequence of the State's entering into an agreement with the Commission pursuant to subsection (b) of this section.

(j) Reserve power to terminate or suspend agreements; emergency situations; State nonaction on causes of danger; authority exercisable only during emergency and commensurate with danger

(1) The Commission, upon its own initiative after reasonable notice and opportunity for hearing to the State with which an agreement under subsection (b) of this section has become effective, or upon request of the Governor of such State, may terminate or suspend all or part of its agreement with the State and reassert the licensing and

regulatory authority vested in it under this chapter, if the Commission finds that (1) such termination or suspension is required to protect the public health and safety, or (2) the State has not complied with one or more of the requirements of this section. The Commission shall periodically review such agreements and actions taken by the States under the agreements to ensure compliance with the provisions of this section.

(2) The Commission, upon its own motion or upon request of the Governor of any State, may, after notifying the Governor, temporarily suspend all or part of its agreement with the State without notice or hearing if, in the judgment of the Commission:

> (A) an emergency situation exists with respect to any material covered by such an agreement creating danger which requires immediate action to protect the health or safety of persons either within or outside the State, and
>
> (B) the State has failed to take steps necessary to contain or eliminate the cause of the danger within a reasonable time after the situation arose.

A temporary suspension under this paragraph shall remain in effect only for such time as the emergency situation exists and shall authorize the Commission to exercise its authority only to the extent necessary to contain or eliminate the danger.

(k) State regulation of activities for certain purposes

Nothing in this section shall be construed to affect the authority of any State or local agency to regulate activities for purposes other than protection against radiation hazards.

(l) Commission regulated activities; notice of filing; hearing

With respect to each application for Commission license authorizing an activity as to which the Commission's authority is continued pursuant to subsection (c) of this section, the Commission shall give prompt notice to the State or States in which the activity will be conducted of the filing of the license application; and shall afford reasonable opportunity for State representatives to offer evidence, interrogate witnesses, and advise the Commission as to the application without requiring such representatives to take a position for or against the granting of the application.

(m) Limitation of agreements and exemptions

No agreement entered into under subsection (b) of this section, and no exemption granted pursuant to subsection (f) of this section, shall affect the authority of the Commission under section 2201(b) or (i) of this title to issue rules, regulations, or orders to protect the common defense and security, to protect restricted data or to guard against the loss or diversion of special nuclear material. For purposes of section 2201(i) of this title, activities covered by exemptions granted pursuant to

subsection (f) of this section shall be deemed to constitute activities authorized pursuant to this chapter; and special nuclear material acquired by any person pursuant to such an exemption shall be deemed to have been acquired pursuant to section 2073 of this title.

. . .

(o) State compliance requirements: compliance with section 2113(b) of this title and health and environmental protection standards; procedures for licenses, rulemaking, and license impact analysis; amendment of agreements for transfer of State collected funds; proceedings duplication restriction; alternative requirements

In the licensing and regulation of byproduct material, as defined in section 2014(e)(2) of this title, or of any activity which results in the production of byproduct material as so defined under an agreement entered into pursuant to subsection (b) of this section, a State shall require –

(1) compliance with the requirements of subsection (b) of section 2113 of this title (respecting ownership of byproduct material and land), and

(2) compliance with standards which shall be adopted by the State for the protection of the public health, safety, and the environment from hazards associated with such material which are equivalent, to the extent practicable, or more stringent than, standards adopted and enforced by the Commission for the same purpose, including requirements and standards promulgated by the

Commission and the Administrator of the Environmental Protection Agency pursuant to sections 2113, 2114, and 2022 of this title, and

(3) procedures which –

(A) in the case of licenses, provide procedures under State law which include –

(i) an opportunity, after public notice, for written comments and a public hearing, with a transcript,

(ii) an opportunity for cross examination, and

(iii) a written determination which is based upon findings included in such determination and upon the evidence presented during the public comment period and which is subject to judicial review;

(B) in the case of rulemaking, provide an opportunity for public participation through written comments or a public hearing and provide for judicial review of the rule;

(C) require for each license which has a significant impact on the human environment a written analysis (which shall be available to the public before the commencement of any such proceedings) of the impact of such license, including any activities conducted pursuant thereto, on the environment, which analysis shall include –

(i) an assessment of the radiological and nonradiological impacts to the public

health of the activities to be conducted pursuant to such license;

(ii) an assessment of any impact on any waterway and groundwater resulting from such activities;

(iii) consideration of alternatives, including alternative sites and engineering methods, to the activities to be conducted pursuant to such license; and

(iv) consideration of the long-term impacts, including decommissioning, decontamination, and reclamation impacts, associated with activities to be conducted pursuant to such license, including the management of any byproduct material, as defined by section 2014(e)(2) of this title; and

(D) prohibit any major construction activity with respect to such material prior to complying with the provisions of subparagraph (C).

If any State under such agreement imposes upon any licensee any requirement for the payment of funds to such State for the reclamation or long-term maintenance and monitoring of such material, and if transfer to the United States of such material is required in accordance with section 2113(b) of this title, such agreement shall be amended by the Commission to provide that such State shall transfer to the United States upon termination of the license issued to such licensee the total amount collected by such State from such licensee for such purpose. If such payments are

required, they must be sufficient to ensure compliance with the standards established by the Commission pursuant to section 2201(x) of this title. No State shall be required under paragraph (3) to conduct proceedings concerning any license or regulation which would duplicate proceedings conducted by the Commission. In adopting requirements pursuant to paragraph (2) of this subsection with respect to sites at which ores are processed primarily for their source material content or which are used for the disposal of byproduct material as defined in section 2014(e)(2) of this title, the State may adopt alternatives (including, where appropriate, site-specific alternatives) to the requirements adopted and enforced by the Commission for the same purpose if, after notice and opportunity for public hearing, the Commission determines that such alternatives will achieve a level of stabilization and containment of the sites concerned, and a level of protection for public health, safety, and the environment from radiological and nonradiological hazards associated with such sites, which is equivalent to, to the extent practicable, or more stringent than the level which would be achieved by standards and requirements adopted and enforced by the Commission for the same purpose and any final standards promulgated by the Administrator of the Environmental Protection Agency in accordance with section 2022 of this title. Such alternative State requirements may take into account local or regional conditions, including geology, topography, hydrology and meteorology.

---

42 U.S.C. § 2022

Health and environmental standards for uranium mill tailings

. . .

(b) Promulgation and revision of rules for protection from hazards at processing or disposal sites

(1) As soon as practicable, but not later than October 31, 1982, the Administrator shall, by rule, propose, and within 11 months thereafter promulgate in final form, standards of general application for the protection of the public health, safety, and the environment from radiological and nonradiological hazards associated with the processing and with the possession, transfer, and disposal of byproduct material, as defined in section 2014(e)(2) of this title, at sites at which ores are processed primarily for their source material content or which are used for the disposal of such byproduct material. If the Administrator fails to promulgate standards in final form under this subsection by October 1, 1983, the authority of the Administrator to promulgate such standards shall terminate, and the Commission may take actions under this chapter without regard to any provision of this chapter requiring such actions to comply with, or be taken in accordance with, standards promulgated by the Administrator. In any such case, the Commission shall promulgate, and from time to time revise, any such standards of general application which the Commission deems necessary to carry out its responsibilities in the conduct of its licensing activities under this chapter. Requirements established by the Commission under this

chapter with respect to byproduct material as defined in section 2014(e)(2) of this title shall conform to such standards. Any requirements adopted by the Commission respecting such byproduct material before promulgation by the Commission of such standards shall be amended as the Commission deems necessary to conform to such standards in the same manner as provided in subsection (f)(3) of this section. . . . In establishing such standards, the Administrator shall consider the risk to the public health, safety, and the environment, the environmental and economic costs of applying such standards, and such other factors as the Administrator determines to be appropriate.

(2) Such generally applicable standards promulgated pursuant to this subsection for nonradiological hazards shall provide for the protection of human health and the environment consistent with the standards required under subtitle C of the Solid Waste Disposal Act, as amended [42 U.S.C.A. § 6921 et seq.], which are applicable to such hazards: *Provided, however*, That no permit issued by the Administrator is required under this chapter or the Solid Waste Disposal Act, as amended [42 U.S.C.A. § 6901 et seq.], for the processing, possession, transfer, or disposal of byproduct material, as defined in section 2014(e)(2) of this title. The Administrator may periodically revise any standard promulgated pursuant to this subsection. Within three years after such revision of any such standard, the Commission and any State permitted to exercise authority under section 2021(b)(2) of this title shall apply such revised standard in the case of any license for byproduct

material as defined in section 2014(e)(2) of this title or any revision thereof.

(c) Publication in Federal Register; notice and hearing; consultations; judicial review; time for petition; venue; copy to Administrator; record; administrative jurisdiction; review by Supreme Court; effective date of rule

(1) Before the promulgation of any rule pursuant to this section, the Administrator shall publish the proposed rule in the Federal Register, together with a statement of the research, analysis, and other available information in support of such proposed rule, and provide a period of public comment of at least thirty days for written comments thereon and an opportunity, after such comment period and after public notice, for any interested person to present oral data, views, and arguments at a public hearing. There shall be a transcript of any such hearing. The Administrator shall consult with the Commission and the Secretary of Energy before promulgation of any such rule.

(2) Judicial review of any rule promulgated under this section may be obtained by any interested person only upon such person filing a petition for review within sixty days after such promulgation in the United States court of appeals for the Federal judicial circuit in which such person resides or has his principal place of business. A copy of the petition shall be forthwith transmitted by the clerk of court to the Administrator. The Administrator thereupon shall file in the court the written submissions to, and transcript of, the written or oral proceedings on which such rule was based as

chapter with respect to byproduct material as defined in section 2014(e)(2) of this title shall conform to such standards. Any requirements adopted by the Commission respecting such byproduct material before promulgation by the Commission of such standards shall be amended as the Commission deems necessary to conform to such standards in the same manner as provided in subsection (f)(3) of this section. . . . In establishing such standards, the Administrator shall consider the risk to the public health, safety, and the environment, the environmental and economic costs of applying such standards, and such other factors as the Administrator determines to be appropriate.

(2) Such generally applicable standards promulgated pursuant to this subsection for nonradiological hazards shall provide for the protection of human health and the environment consistent with the standards required under subtitle C of the Solid Waste Disposal Act, as amended [42 U.S.C.A. § 6921 et seq.], which are applicable to such hazards: *Provided, however*, That no permit issued by the Administrator is required under this chapter or the Solid Waste Disposal Act, as amended [42 U.S.C.A. § 6901 et seq.], for the processing, possession, transfer, or disposal of byproduct material, as defined in section 2014(e)(2) of this title. The Administrator may periodically revise any standard promulgated pursuant to this subsection. Within three years after such revision of any such standard, the Commission and any State permitted to exercise authority under section 2021(b)(2) of this title shall apply such revised standard in the case of any license for byproduct

material as defined in section 2014(e)(2) of this title or any revision thereof.

(c) Publication in Federal Register; notice and hearing; consultations; judicial review; time for petition; venue; copy to Administrator; record; administrative jurisdiction; review by Supreme Court; effective date of rule

(1) Before the promulgation of any rule pursuant to this section, the Administrator shall publish the proposed rule in the Federal Register, together with a statement of the research, analysis, and other available information in support of such proposed rule, and provide a period of public comment of at least thirty days for written comments thereon and an opportunity, after such comment period and after public notice, for any interested person to present oral data, views, and arguments at a public hearing. There shall be a transcript of any such hearing. The Administrator shall consult with the Commission and the Secretary of Energy before promulgation of any such rule.

(2) Judicial review of any rule promulgated under this section may be obtained by any interested person only upon such person filing a petition for review within sixty days after such promulgation in the United States court of appeals for the Federal judicial circuit in which such person resides or has his principal place of business. A copy of the petition shall be forthwith transmitted by the clerk of court to the Administrator. The Administrator thereupon shall file in the court the written submissions to, and transcript of, the written or oral proceedings on which such rule was based as

provided in section 2112 of Title 28. The court shall have jurisdiction to review the rule in accordance with chapter 7 of Title 5 and to grant appropriate relief as provided in such chapter. The judgment of the court affirming, modifying, or setting aside, in whole or in part, any such rule shall be final, subject to judicial review by the Supreme Court of the United States upon certiorari or certification as provided in section 1254 of Title 28.

(3) Any rule promulgated under this section shall not take effect earlier than sixty calendar days after such promulgation.

(d) Federal and State implementation and enforcement

Implementation and enforcement of the standards promulgated pursuant to subsection (b) of this section shall be the responsibility of the Commission in the conduct of its licensing activities under this chapter. States exercising authority pursuant to section 2021(b)(2) of this title shall implement and enforce such standards in accordance with subsection (o) of such section.

. . .

---

42 U.S.C. § 2023

State authority to regulate radiation below level of regulatory concern of Nuclear Regulatory Commission

(a) In general

No provision of this chapter, or of the Low-Level Radioactive Waste Policy Act [42 U.S.C.A. § 2021b et seq.], may be construed to prohibit or otherwise restrict the authority of any State to regulate, on the basis of radiological hazard, the disposal or off-site incineration of low-level radioactive waste, if the Nuclear Regulatory Commission, after October 24, 1992, exempts such waste from regulation.

(b) Relation to other State authority

This section may not be construed to imply preemption of existing State authority. Except as expressly provided in subsection (a) of this section, this section may not be construed to confer on any State any additional authority to regulate activities licensed by the Nuclear Regulatory Commission.

. . .

---

42 U.S.C. § 2091

Determination of source material

The Commission may determine from time to time that other material is source material in addition to those specified in the definition of source material. Before

making such determination, the Commission must find that such material is essential to the production of special nuclear material and must find that the determination that such material is source material is in the interest of the common defense and security, and the President must have expressly assented in writing to the determination. The Commission's determination, together with the assent of the President, shall be submitted to the Energy Committees and a period of thirty days shall elapse while Congress is in session (in computing such thirty days, there shall be excluded the days on which either House is not in session because of an adjournment of more than three days) before the determination of the Commission may become effective: *Provided, however*, That the Energy Committees, after having received such determination, may by resolution in writing waive the conditions of or all or any portion of such thirty-day period.

---

42 U.S.C. § 2092

License requirements for transfers

Unless authorized by a general or specific license issued by the Commission, which the Commission is authorized to issue, no person may transfer or receive in interstate commerce, transfer, deliver, receive possession of or title to, or import into or export from the United States any source material after removal from its place of deposit in nature, except that licenses shall

not be required for quantities of source material which, in the opinion of the Commission, are unimportant.

---

42 U.S.C. § 2093

Domestic distribution of source material

(a) License

The Commission is authorized to issue licenses for and to distribute source material within the United States to qualified applicants requesting such material –

(1) for the conduct of research and development activities of the types specified in section 2051 of this title;

(2) for use in the conduct of research and development activities or in medical therapy under a license issued pursuant to section 2134 of this title;

(3) for use under a license issued pursuant to section 2133 of this title; or

(4) for any other use approved by the Commission as an aid to science or industry.

(b) Minimum criteria for licenses

The Commission shall establish, by rule, minimum criteria for the issuance of specific or general licenses for the distribution of source material depending upon the degree of importance to the common defense and security or to the health and safety of the public of –

(1) the physical characteristics of the source material to be distributed;

(2) the quantities of source material to be distributed; and

(3) the intended use of the source material to be distributed.

(c) Determination of charges

The Commission may make a reasonable charge determined pursuant to section 2201(m) of this title for the source material licensed and distributed under subsection (a)(1), (a)(2), or (a)(4) of this section and shall make a reasonable charge determined pursuant to section 2201(m) of this title, for the source material licensed and distributed under subsection (a)(3) of this section. The Commission shall establish criteria in writing for the determination of whether a charge will be made for the source material licensed and distributed under subsection (a)(1), (a)(2), or (a)(4) of this section, considering, among other things, whether the licensee is a nonprofit or eleemosynary institution and the purposes for which the source material will be used.

---

42 U.S.C. § 2094

Foreign distribution of source material

The Commission is authorized to cooperate with any nation by distributing source material and to distribute source material pursuant to the terms of an agreement for cooperation to which such nation is a party and which is made in accordance with section 2153 of

this title. The Commission is also authorized to distribute source material outside of the United States upon a determination by the Commission that such activity will not be inimical to the interests of the United States. The authority to distribute source material under this section other than under an export license granted by the Nuclear Regulatory Commission shall in no case extend to quantities of source material in excess of three metric tons per year per recipient.

---

42 U.S.C. § 2095

Reports

The Commission is authorized to issue such rules, regulations, or orders requiring reports of ownership, possession, extraction, refining, shipment, or other handling of source material as it may deem necessary, except that such reports shall not be required with respect to (a) any source material prior to removal from its place of deposit in nature, or (b) quantities of source material which in the opinion of the Commission are unimportant or the reporting of which will discourage independent prospecting for new deposits.

---

42 U.S.C. § 2096

Acquisition of source material; payments

The Commission is authorized and directed, to the extent it deems necessary to effectuate the provisions of this chapter –

(a) to purchase, take, requisition, condemn, or otherwise acquire supplies of source material;

(b) to purchase, condemn, or otherwise acquire any interest in real property containing deposits of source material; and

(c) to purchase, condemn, or otherwise acquire rights to enter upon any real property deemed by the Commission to have possibilities of containing deposits of source material in order to conduct prospecting and exploratory operations for such deposits.

Any purchase made under this section may be made without regard to the provisions of section 6101 of Title 41, upon certification by the Commission that such action is necessary in the interest of the common defense and security, or upon a showing by the Commission that advertising is not reasonably practicable. Partial and advanced payments may be made under contracts for such purposes. The Commission may establish guaranteed prices for all source material delivered to it within a specified time. Just compensation shall be made for any right, property, or interest in property taken, requisitioned, condemned, or otherwise acquired under this section.

---

42 U.S.C. § 2097

Operations on lands belonging to United States

The Commission is authorized, to the extent it deems necessary to effectuate the provisions of this chapter, to issue leases or permits for prospecting for, exploration for, mining of, or removal of deposits of source material in lands belonging to the United States: *Provided, however*, That notwithstanding any other provisions of law, such leases or permits may be issued for lands administered for national park, monument, and wildlife purposes only when the President by Executive Order declares that the requirements of the common defense and security make such action necessary.

---

42 U.S.C. § 2099

Prohibitions against issuance of license

The Commission shall not license any person to transfer or deliver, receive possession of or title to, or import into or export from the United States any source material if, in the opinion of the Commission, the issuance of a license to such person for such purpose would be inimical to the common defense and security or the health and safety of the public.

---

42 U.S.C. § 2111

Domestic distribution

(a) In general

No person may transfer or receive in interstate commerce, manufacture, produce, transfer, acquire, own, possess, import, or export any byproduct material, except to the extent authorized by this section, section 2112 or section 2114 of this title. The Commission is authorized to issue general or specific licenses to applicants seeking to use byproduct material for research or development purposes, for medical therapy, industrial uses, agricultural uses, or such other useful applications as may be developed. The Commission may distribute, sell, loan, or lease such byproduct material as it owns to qualified applicants with or without charge: *Provided, however*, That, for byproduct material to be distributed by the Commission for a charge, the Commission shall establish prices on such equitable basis as, in the opinion of the Commission, (a) will provide reasonable compensation to the Government for such material, (b) will not discourage the use of such material or the development of sources of supply of such material independent of the Commission, and (c) will encourage research and development. In distributing such material, the Commission shall give preference to applicants proposing to use such material either in the conduct of research and development or in medical therapy. The Commission shall not permit the distribution of any byproduct material to any licensee, and shall recall or order the recall of any

distributed material from any licensee, who is not equipped to observe or who fails to observe such safety standards to protect health as may be established by the Commission or who uses such material in violation of law or regulation of the Commission or in a manner other than as disclosed in the application therefor or approved by the Commission. The Commission is authorized to establish classes of byproduct material and to exempt certain classes or quantities of material or kinds of uses or users from the requirements for a license set forth in this section when it makes a finding that the exemption of such classes or quantities of such material or such kinds of uses or users will not constitute an unreasonable risk to the common defense and security and to the health and safety of the public.

(b) Requirements

(1) In general

Except as provided in paragraph (2), byproduct material, as defined in paragraphs (3) and (4) of section 2014(e) of this title, may only be transferred to and disposed of in a disposal facility that –

(A) is adequate to protect public health and safety; and

(B)(i) is licensed by the Commission; or

(ii) is licensed by a State that has entered into an agreement with the Commission under section 2021(b) of this title, if the licensing requirements of the State are compatible with the licensing requirements of the Commission.

(2) Effect of subsection

Nothing in this subsection affects the authority of any entity to dispose of byproduct material, as defined in paragraphs (3) and (4) of section 2014(e) of this title, at a disposal facility in accordance with any Federal or State solid or hazardous waste law, including the Solid Waste Disposal Act (42 U.S.C. 6901 et seq.).

(c) Treatment as low-level radioactive waste

Byproduct material, as defined in paragraphs (3) and (4) of section 2014(e) of this title, disposed of under this section shall not be considered to be low-level radioactive waste for the purposes of –

(1) section 2 of the Low-Level Radioactive Waste Policy Act (42 U.S.C. 2021b); or

(2) carrying out a compact that is –

(A) entered into in accordance with that Act (42 U.S.C. 2021b et seq.); and

(B) approved by Congress.

---

42 U.S.C. § 2112

Foreign distribution of byproduct material

(a) Cooperation with other Nations

The Commission is authorized to cooperate with any nation by distributing byproduct material, and to distribute byproduct material, pursuant to the terms of an agreement for cooperation to which such nation is

party and which is made in accordance with section 2153 of this title.

(b) Distribution to individuals

The Commission is also authorized to distribute byproduct material to any person outside the United States upon application therefor by such person and demand such charge for such material as would be charged for the material if it were distributed within the United States: *Provided, however*, That the Commission shall not distribute any such material to any person under this section if, in its opinion, such distribution would be inimical to the common defense and security: *And provided further*, That the Commission may require such reports regarding the use of material distributed pursuant to the provisions of this section as it deems necessary.

(c) Distributor's license

The Commission is authorized to license others to distribute byproduct material to any person outside the United States under the same conditions, except as to charges, as would be applicable if the material were distributed by the Commission.

---

42 U.S.C. § 2113

Ownership and custody of certain byproduct material and disposal sites

(a) Specific assurances in license for pretermination actions

Any license issued or renewed after the effective date of this section under section 2092 or section 2111 of this title for any activity which results in the production of any byproduct material, as defined in section 2014(e)(2) of this title, shall contain such terms and conditions as the Commission determines to be necessary to assure that, prior to termination of such license –

(1) the licensee will comply with decontamination, decommissioning, and reclamation standards prescribed by the Commission for sites (A) at which ores were processed primarily for their source material content and (B) at which such byproduct material is deposited, and

(2) ownership of any byproduct material, as defined in section 2014(e)(2) of this title, which resulted from such licensed activity shall be transferred to (A) the United States or (B) in the State in which such activity occurred if such State exercises the option under subsection (b)(1) of this section to acquire land used for the disposal of byproduct material.

Any license which is in effect on the effective date of this section and which is subsequently terminated

without renewal shall comply with paragraphs (1) and (2) upon termination.

(b) Transfer of title; health and environmental protection through maintenance of property and materials; use of surface or subsurface estates; first refusal rights of transferor; maintenance, monitoring, and emergency measures and other authorized action; licensee-transferor liability for fraud or negligence; administrative and legal costs limitation; government retransfers under section 7914(h) of this title

(1)(A) The Commission shall require by rule, regulation, or order that prior to the termination of any license which is issued after the effective date of this section, title to the land, including any interests therein (other than land owned by the United States or by a State) which is used for the disposal of any byproduct material, as defined by section 2014(e)(2) of this title, pursuant to such license shall be transferred to –

(i) the United States, or

(ii) the State in which such land is located, at the option of such State,

unless the Commission determines prior to such termination that transfer of title to such land and such byproduct material is not necessary or desirable to protect the public health, safety, or welfare or to minimize or eliminate danger to life or property. Such determination shall be made in accordance with section 2231 of this title. Notwithstanding any other provision of law or any such determination, such property and materials shall

be maintained pursuant to a license issued by the Commission pursuant to section 2111 of this title in such manner as will protect the public health, safety, and the environment.

(B) If the Commission determines by order that use of the surface or subsurface estates, or both, of the land transferred to the United States or to a State under subparagraph (A) would not endanger the public health, safety, welfare, or environment, the Commission, pursuant to such regulations as it may prescribe, shall permit the use of the surface or subsurface estates, or both, of such land in a manner consistent with the provisions of this section. If the Commission permits such use of such land, it shall provide the person who transferred such land with the right of first refusal with respect to such use of such land.

(2) If transfer to the United States of title to such byproduct material and such land is required under this section, the Secretary of Energy or any Federal agency designated by the President shall, following the Commission's determination of compliance under subsection (c) of this section, assume title and custody of such byproduct material and land transferred as provided in this subsection. Such Secretary or Federal agency shall maintain such material and land in such manner as will protect the public health and safety and the environment. Such custody may be transferred to another officer or instrumentality of the United States only upon approval of the President.

(3) If transfer to a State of title to such byproduct material is required in accordance with this

subsection, such State shall, following the Commission's determination of compliance under subsection (d) of this section, assume title and custody of such byproduct material and land transferred as provided in this subsection. Such State shall maintain such material and land in such manner as will protect the public health, safety, and the environment.

(4) In the case of any such license under section 2092 of this title, which was in effect on the effective date of this section, the Commission may require, before the termination of such license, such transfer of land and interests therein (as described in paragraph (1) of this subsection) to the United States or a State in which such land is located, at the option of such State, as may be necessary to protect the public health, welfare, and the environment from any effects associated with such byproduct material. In exercising the authority of this paragraph, the Commission shall take into consideration the status of the ownership of such land and interests therein and the ability of the licensee to transfer title and custody thereof to the United States or a State.

(5) The Commission may, pursuant to a license, or by rule or order, require the Secretary or other Federal agency or State having custody of such property and materials to undertake such monitoring, maintenance, and emergency measures as are necessary to protect the public health and safety and such other actions as the Commission deems necessary to comply with the standards promulgated pursuant to section 2114 of this title. The Secretary or such other Federal agency is

authorized to carry out maintenance, monitoring, and emergency measures, but shall take no other action pursuant to such license, rule or order, with respect to such property and materials unless expressly authorized by Congress after November 8, 1978.

(6) The transfer of title to land or byproduct materials, as defined in section 2014(e)(2) of this title, to a State or the United States pursuant to this subsection shall not relieve any licensee of liability for any fraudulent or negligent acts done prior to such transfer.

(7) Material and land transferred to the United States or a State in accordance with this subsection shall be transferred without cost to the United States or a State (other than administrative and legal costs incurred in carrying out such transfer). Subject to the provisions of paragraph (1)(B) of this subsection, the United States or a State shall not transfer title to material or property acquired under this subsection to any person, unless such transfer is in the same manner as provided under section 7914(h) of this title.

(8) The provisions of this subsection respecting transfer of title and custody to land shall not apply in the case of lands held in trust by the United States for any Indian tribe or lands owned by such Indian tribe subject to a restriction against alienation imposed by the United States. In the case of such lands which are used for the disposal of byproduct material, as defined in section 2014(e)(2) of this title, the licensee shall be required to enter

into such arrangements with the Commission as may be appropriate to assure the long-term maintenance and monitoring of such lands by the United States.

(c) Compliance with applicable standards and license requirements; determination upon termination of license

Upon termination on[1] any license to which this section applies, the Commission shall determine whether or not the licensee has complied with all applicable standards and requirements under such license.

---

42 U.S.C. § 2114

Authorities of Commission respecting certain byproduct material

(a) Management function

The Commission shall insure that the management of any byproduct material, as defined in section 2014(e)(2) of this title, is carried out in such manner as –

(1) the Commission deems appropriate to protect the public health and safety and the environment from radiological and non-radiological hazards associated with the processing and with the possession and transfer of such material, taking into account the risk to the public health, safety, and the environment, with due consideration of the

---

[1] So in original. Probably should be "of".

economic costs and such other factors as the Commission determines to be appropriate,,[1]

(2) conforms with applicable general standards promulgated by the Administrator of the Environmental Protection Agency under section 2022 of this title, and

(3) conforms to general requirements established by the Commission, with the concurrence of the Administrator, which are, to the maximum extent practicable, at least comparable to requirements applicable to the possession, transfer, and disposal of similar hazardous material regulated by the Administrator under the Solid Waste Disposal Act, as amended [42 U.S.C.A. § 6901 et seq.].

(b) Rules, regulations, or orders for certain activities; civil penalty

In carrying out its authority under this section, the Commission is authorized to –

(1) by rule, regulation, or order require persons, officers, or instrumentalities exempted from licensing under section 2111 of this title to conduct monitoring, perform remedial work, and to comply with such other measures as it may deem necessary or desirable to protect health or to minimize danger to life or property, and in connection with the disposal or storage of such byproduct material; and

(2) make such studies and inspections and to conduct such monitoring as may be necessary.

---

[1] So in original.

Any violation by any person other than the United States or any officer or employee of the United States or a State of any rule, regulation, or order or licensing provision, of the Commission established under this section or section 2113 of this title shall be subject to a civil penalty in the same manner and in the same amount as violations subject to a civil penalty under section 2282 of this title. Nothing in this section affects any authority of the Commission under any other provision of this chapter.

(c) Alternative requirements or proposals

In the case of sites at which ores are processed primarily for their source material content or which are used for the disposal of byproduct material as defined in section 2014(e)(2) of this title, a licensee may propose alternatives to specific requirements adopted and enforced by the Commission under this chapter. Such alternative proposals may take into account local or regional conditions, including geology, topography, hydrology and meteorology. The Commission may treat such alternatives as satisfying Commission requirements if the Commission determines that such alternatives will achieve a level of stabilization and containment of the sites concerned, and a level of protection for public health, safety, and the environment from radiological and nonradiological hazards associated with such sites, which is equivalent to, to the extent practicable, or more stringent than the level which would be achieved by standards and requirements adopted and enforced by the Commission for the same purpose and any final standards promulgated by the

Administrator of the Environmental Protection Agency in accordance with section 2022 of this title.

---

42 U.S.C. § 2210b

Uranium supply

(a) Assessment of domestic uranium industry viability; monitoring and reporting requirements; criteria; implementation by rules and regulations

The Secretary of Energy shall monitor and for the years 1983 to 1992 report annually to the Congress and to the President a determination of the viability of the domestic uranium mining and milling industry and shall establish by rule, after public notice and in accordance with the requirements of section 2231 of this title, within 9 months of January 4, 1983, specific criteria which shall be assessed in the annual reports on the domestic uranium industry's viability. The Secretary of Energy is authorized to issue regulations providing for the collection of such information as the Secretary of Energy deems necessary to carry out the monitoring and reporting requirements of this section.

. . .

(c) Criteria for monitoring and reporting requirements

The criteria referred to in subsection (a) of this section shall also include, but not be limited to –

(1) an assessment of whether executed contracts or options for source material or special nuclear material will result in greater than 37 ½ percent of actual or projected domestic uranium requirements for any two-consecutive-year period being supplied by source material or special nuclear material from foreign sources;

(2) projections of uranium requirements and inventories of domestic utilities for a 10 year period;

(3) present and probable future use of the domestic market by foreign imports;

(4) whether domestic economic reserves can supply all future needs for a future 10 year period;

(5) present and projected domestic uranium exploration expenditures and plans;

(6) present and projected employment and capital investment in the uranium industry;

(7) the level of domestic uranium production capacity sufficient to meet projected domestic nuclear power needs for a 10 year period; and

(8) a projection of domestic uranium production and uranium price levels which will be in effect under various assumptions with respect to imports.

(d) Excessive imports; investigation by United States International Trade Commission

The Secretary or[1] Energy, at any time, may determine on the basis of the monitoring and annual reports required under this section that source material or special nuclear material from foreign sources is being imported in such increased quantities as to be a substantial cause of serious injury, or threat thereof, to the United States uranium mining and milling industry. Based on that determination, the United States Trade Representative shall request that the United States International Trade Commission initiate an investigation under section 2251 of Title 19.

(e) Excessive imports for contracts or options as threatening national security; investigation by Secretary of Commerce; recommendation for further investigation

(1) If, during the period 1982 to 1992, the Secretary of Energy determines that executed contracts or options for source material or special nuclear material from foreign sources for use in utilization facilities within or under the jurisdiction of the United States represent greater than 37 ½ percent of actual or projected domestic uranium requirements for any two-consecutive-year period, or if the Secretary of Energy determines the level of contracts or options involving source material and special nuclear material from foreign sources may threaten to impair the national security, the Secretary of Energy shall request the Secretary of Commerce to initiate under section 1862 of Title 19 an investigation to determine the effects on the

---

[1] So in original. Probably should be "of".

national security of imports of source material and special nuclear material. The Secretary of Energy shall cooperate fully with the Secretary of Commerce in carrying out such an investigation and shall make available to the Secretary of Commerce the findings that lead to this request and such other information that will assist the Secretary of Commerce in the conduct of the investigation.

(2) The Secretary of Commerce shall, in the conduct of any investigation requested by the Secretary of Energy pursuant to this section, take into account any information made available by the Secretary of Energy, including information regarding the impact on national security of projected or executed contracts or options for source material or special nuclear material from foreign sources or whether domestic production capacity is sufficient to supply projected national security requirements.

(3) No sooner than 3 years following completion of any investigation by the Secretary of Commerce under paragraph (1), if no recommendation has been made pursuant to such study for trade adjustments to assist or protect domestic uranium production, the Secretary of Energy may initiate a request for another such investigation by the Secretary of Commerce.

---

42 U.S.C. § 2210i

Secure transfer of nuclear materials

(a) The Commission shall establish a system to ensure that materials described in subsection (b) of this section, when transferred or received in the United States by any party pursuant to an import or export license issued pursuant to this chapter, are accompanied by a manifest describing the type and amount of materials being transferred or received. Each individual receiving or accompanying the transfer of such materials shall be subject to a security background check conducted by appropriate Federal entities.

(b) Except as otherwise provided by the Commission by regulation, the materials referred to in subsection (a) of this section are byproduct materials, source materials, special nuclear materials, high-level radioactive waste, spent nuclear fuel, transuranic waste, and low-level radioactive waste (as defined in section 10101(16) of this title).

---

42 U.S.C. § 2296b

Overfeed program

(a) Uranium purchases

To the maximum extent permitted by sound business practice, the Corporation shall purchase uranium in accordance with subsection (b) of this section and overfeed it into the enrichment process to reduce the amount of power required to produce the enriched uranium

ordered by enrichment services customers, taking into account costs associated with depleted tailings.

(b) Use of domestic uranium

Uranium purchased by the Corporation for purposes of this section shall be of domestic origin and purchased from domestic uranium producers to the extent permitted under the multilateral trade agreements (as defined in section 3501(4) of Title 19) and the North American Free Trade Agreement.

---

42 U.S.C. § 2296b-1

National Strategic Uranium Reserve

There is hereby established the National Strategic Uranium Reserve under the direction and control of the Secretary. The Reserve shall consist of natural uranium and uranium equivalents contained in stockpiles or inventories currently held by the United States for defense purposes. Effective on October 24, 1992, and for 6 years thereafter, use of the Reserve shall be restricted to military purposes and government research. Use of the Department of Energy's stockpile of enrichment tails existing on October 24, 1992, shall be restricted to military purposes for 6 years thereafter.

---

42 U.S.C. § 2296b-2

Sale of remaining DOE inventories

The Secretary, after making the transfer required under section 2297c-6 of this title, may sell, from time to time, portions of the remaining inventories of raw or low-enriched uranium of the Department that are not necessary to national security needs, to the Corporation, at a fair market price. Sales under this section may be made only if such sales will not have a substantial adverse impact on the domestic uranium mining industry. Proceeds from sales under this subsection shall be deposited into the general fund of the United States Treasury.

---

42 U.S.C. § 2296b-3

Responsibility for the industry

(a) Continuing Secretarial responsibility

The Secretary shall have a continuing responsibility for the domestic uranium industry to encourage the use of domestic uranium. The Secretary, in fulfilling this responsibility, shall not use any supervisory authority over the Corporation. The Secretary shall report annually to the appropriate committees of Congress on action taken with respect to the domestic uranium industry, including action to promote the export of domestic uranium pursuant to subsection (b) of this section.

(b) Encourage export

The Department, with the cooperation of the Department of Commerce, the United States Trade Representative and other governmental organizations, shall encourage the export of domestic uranium. Within 180 days after October 24, 1992, the Secretary shall develop recommendations and implement government programs to promote the export of domestic uranium.

---

42 U.S.C. § 2296b-4

Annual uranium purchase reports

(a) In general

By January 1 of each year, the owner or operator of any civilian nuclear power reactor shall report to the Secretary, acting through the Administrator of the Energy Information Administration, for activities of the previous fiscal year –

(1) the country of origin and the seller of any uranium or enriched uranium purchased or imported into the United States either directly or indirectly by such owner or operator; and

(2) the country of origin and the seller of any enrichment services purchased by such owner or operator.

(b) Congressional access

The information provided to the Secretary pursuant to this section shall be made available to the Congress by March 1 of each year.

---

42 U.S.C. § 2296b-6

Regulatory treatment of uranium purchases

(a) Encouragement

The Secretary shall encourage States and utility regulatory authorities to take into consideration the achievement of the objectives and purposes of this part, including the national need to avoid dependence on imports, when considering whether to allow the owner or operator of any electric power plant to recover in its rates and charges to customers any cost of purchase of domestic uranium, enriched uranium, or enrichment services from a non-affiliated seller greater than the cost of non-domestic uranium, enriched uranium or enrichment services.

(b) Report

Within 1 year after October 24, 1992, and annually thereafter, the Secretary shall report to the Congress on the progress of the Secretary in encouraging actions by State regulatory authorities pursuant to subsection (a) of this section. Such report shall include detailed information on programs initiated by the Secretary to encourage appropriate State regulatory action and

recommendations, if any, on further action that could be taken by the Secretary, other Federal agencies, or the Congress in order to further the purposes of this part.

(c) Savings provision

This section may not be construed to authorize the Secretary to take any action in violation of the multilateral trade agreements (as defined in section 3501(4) of Title 19) or the North American Free Trade Agreement.

---

42 U.S.C. § 2296b-7

Definitions

For purposes of this part:

(1) The term "Corporation" means the United States Enrichment Corporation established under section 2297b of this title or its successor.

. . .

(3) The term "domestic origin" refers to any uranium that has been mined in the United States including uranium recovered from uranium deposits in the United States by underground mining, open-pit mining, strip mining, in situ recovery, leaching, and ion recovery, or recovered from phosphoric acid manufactured in the United States.

(4) The term "domestic uranium producer" means a person or entity who produces domestic uranium and who has, to the extent required by State and

Federal agencies having jurisdiction, licenses and permits for the operation, decontamination, decommissioning, and reclamation of sites, structures and equipment.

. . .

---

10 C.F.R. Pt. 40, App. A

Criteria Relating to the Operation of Uranium Mills and the Disposition of Tailings or Wastes Produced by the Extraction or Concentration of Source Material From Ores Processed Primarily for Their Source Material Content

Introduction. Every applicant for a license to possess and use source material in conjunction with uranium or thorium milling, or byproduct material at sites formerly associated with such milling, is required by the provisions of § 40.31(h) to include in a license application proposed specifications relating to milling operations and the disposition of tailings or wastes resulting from such milling activities. This appendix establishes technical, financial, ownership, and long-term site surveillance criteria relating to the siting, operation, decontamination, decommissioning, and reclamation of mills and tailings or waste systems and sites at which such mills and systems are located. As used in this appendix, the term "as low as is reasonably achievable" has the same meaning as in § 20.1003 of this chapter.

In many cases, flexibility is provided in the criteria to allow achieving an optimum tailings disposal program

on a site-specific basis. However, in such cases the objectives, technical alternatives and concerns which must be taken into account in developing a tailings program are identified. As provided by the provisions of § 40.31(h) applications for licenses must clearly demonstrate how the criteria have been addressed.

The specifications must be developed considering the expected full capacity of tailings or waste systems and the lifetime of mill operations. Where later expansions of systems or operations may be likely (for example, where large quantities of ore now marginally uneconomical may be stockpiled), the amenability of the disposal system to accommodate increased capacities without degradation in long-term stability and other performance factors must be evaluated.

Licensees or applicants may propose alternatives to the specific requirements in this appendix. The alternative proposals may take into account local or regional conditions, including geology, topography, hydrology, and meterology. The Commission may find that the proposed alternatives meet the Commission's requirements if the alternatives will achieve a level of stabilization and containment of the sites concerned, and a level of protection for public health, safety, and the environment from radiological and nonradiological hazards associated with the sites, which is equivalent to, to the extent practicable, or more stringent than the level which would be achieved by the requirements of this Appendix and the standards promulgated by the Environmental Protection Agency in 40 CFR part 192, subparts D and E.

All site specific licensing decisions based on the criteria in this appendix or alternatives proposed by licensees or applicants will take into account the risk to the public health and safety and the environment with due consideration to the economic costs involved and any other factors the Commission determines to be appropriate. In implementing this appendix, the Commission will consider "practicable" and "reasonably achievable" as equivalent terms. Decisions involved [sic] these terms will take into account the state of technology, and the economics of improvements in relation to benefits to the public health and safety, and other societal and socioeconomic considerations, and in relation to the utilization of atomic energy in the public interest.

The following definitions apply to the specified terms as used in this appendix:

Aquifer means a geologic formation, group of formations, or part of a formation capable of yielding a significant amount of ground water to wells or springs. Any saturated zone created by uranium or thorium recovery operations would not be considered an aquifer unless the zone is or potentially is (1) hydraulically interconnected to a natural aquifer, (2) capable of discharge to surface water, or (3) reasonably accessible because of migration beyond the vertical projection of the boundary of the land transferred for long-term government ownership and care in accordance with Criterion 11 of this appendix.

As expeditiously as practicable considering technological feasibility, for the purposes of Criterion 6A, means as quickly as possible considering: the physical characteristics of the tailings and the site; the limits of available technology; the need for consistency with mandatory requirements of other regulatory programs; and factors beyond the control of the licensee. The phrase permits consideration of the cost of compliance only to the extent specifically provided for by use of the term available technology.

Available technology means technologies and methods for emplacing a final radon barrier on uranium mill tailings piles or impoundments. This term shall not be construed to include extraordinary measures or techniques that would impose costs that are grossly excessive as measured by practice within the industry (or one that is reasonably analogous), (such as, by way of illustration only, unreasonable overtime, staffing, or transportation requirements, etc., considering normal practice in the industry; laser fusion of soils, etc.), provided there is reasonable progress toward emplacement of the final radon barrier. To determine grossly excessive costs, the relevant baseline against which cost shall be compared is the cost estimate for tailings impoundment closure contained in the licensee's approved reclamation plan, but costs beyond these estimates shall not automatically be considered grossly excessive.

Closure means the activities following operations to decontaminate and decommission the buildings and

site used to produce byproduct materials and reclaim the tailings and/or waste disposal area.

Closure plan means the Commission approved plan to accomplish closure.

Compliance period begins when the Commission sets secondary ground-water protection standards and ends when the owner or operator's license is terminated and the site is transferred to the State or Federal agency for long-term care.

Dike means an embankment or ridge of either natural or man-made materials used to prevent the movement of liquids, sludges, solids or other materials.

Disposal area means the area containing byproduct materials to which the requirements of Criterion 6 apply.

Existing portion means that land surface area of an existing surface impoundment on which significant quantities of uranium or thorium byproduct materials had been placed prior to September 30, 1983.

Factors beyond the control of the licensee means factors proximately causing delay in meeting the schedule in the applicable reclamation plan for the timely emplacement of the final radon barrier notwithstanding the good faith efforts of the licensee to complete the barrier in compliance with paragraph (1) of Criterion 6A. These factors may include, but are not limited to –

(1) Physical conditions at the site;

(2) Inclement weather or climatic conditions;

(3) An act of God;

(4) An act of war;

(5) A judicial or administrative order or decision, or change to the statutory, regulatory, or other legal requirements applicable to the licensee's facility that would preclude or delay the performance of activities required for compliance;

(6) Labor disturbances;

(7) Any modifications, cessation or delay ordered by State, Federal, or local agencies;

(8) Delays beyond the time reasonably required in obtaining necessary government permits, licenses, approvals, or consent for activities described in the reclamation plan proposed by the licensee that result from agency failure to take final action after the licensee has made a good faith, timely effort to submit legally sufficient applications, responses to requests (including relevant data requested by the agencies), or other information, including approval of the reclamation plan; and

(9) An act or omission of any third party over whom the licensee has no control.

Final radon barrier means the earthen cover (or approved alternative cover) over tailings or waste constructed to comply with Criterion 6 of this appendix (excluding erosion protection features).

Ground water means water below the land surface in a zone of saturation. For purposes of this appendix,

ground water is the water contained within an aquifer as defined above.

Leachate means any liquid, including any suspended or dissolved components in the liquid, that has percolated through or drained from the byproduct material.

Licensed site means the area contained within the boundary of a location under the control of persons generating or storing byproduct materials under a Commission license.

Liner means a continuous layer of natural or man-made materials, beneath or on the sides of a surface impoundment which restricts the downward or lateral escape of byproduct material, hazardous constituents, or leachate.

Milestone means an action or event that is required to occur by an enforceable date.

Operation means that a uranium or thorium mill tailings pile or impoundment is being used for the continued placement of byproduct material or is in standby status for such placement. A pile or impoundment is in operation from the day that byproduct material is first placed in the pile or impoundment until the day final closure begins.

Point of compliance is the site specific location in the uppermost aquifer where the ground-water protection standard must be met.

Reclamation plan, for the purposes of Criterion 6A, means the plan detailing activities to accomplish reclamation of the tailings or waste disposal area in accordance with the technical criteria of this appendix. The reclamation plan must include a schedule for reclamation milestones that are key to the completion of the final radon barrier including as appropriate, but not limited to, wind blown tailings retrieval and placement on the pile, interim stabilization (including dewatering or the removal of freestanding liquids and recontouring), and final radon barrier construction. (Reclamation of tailings must also be addressed in the closure plan; the detailed reclamation plan may be incorporated into the closure plan.)

Surface impoundment means a natural topographic depression, man-made excavation, or diked area, which is designed to hold an accumulation of liquid wastes or wastes containing free liquids, and which is not an injection well.

Uppermost aquifer means the geologic formation nearest the natural ground surface that is an aquifer, as well as lower aquifers that are hydraulically interconnected with this aquifer within the facility's property boundary.

I. Technical Criteria

Criterion 1 – The general goal or broad objective in siting and design decisions is permanent isolation of tailings and associated contaminants by minimizing disturbance and dispersion by natural forces, and to do

so without ongoing maintenance. For practical reasons, specific siting decisions and design standards must involve finite times (e.g., the longevity design standard in Criterion 6). The following site features which will contribute to such a goal or objective must be considered in selecting among alternative tailings disposal sites or judging the adequacy of existing tailings sites:

Remoteness from populated areas;

Hydrologic and other natural conditions as they contribute to continued immobilization and isolation of contaminants from ground-water sources; and

Potential for minimizing erosion, disturbance, and dispersion by natural forces over the long term.

The site selection process must be an optimization to the maximum extent reasonably achievable in terms of these features.

In the selection of disposal sites, primary emphasis must be given to isolation of tailings or wastes, a matter having long-term impacts, as opposed to consideration only of short-term convenience or benefits, such as minimization of transportation or land acquisition costs. While isolation of tailings will be a function of both site and engineering design, overriding consideration must be given to siting features given the long-term nature of the tailings hazards.

Tailings should be disposed of in a manner that no active maintenance is required to preserve conditions of the site.

Criterion 2 – To avoid proliferation of small waste disposal sites and thereby reduce perpetual surveillance obligations, byproduct material from in situ extraction operations, such as residues from solution evaporation or contaminated control processes, and wastes from small remote above ground extraction operations must be disposed of at existing large mill tailings disposal sites; unless, considering the nature of the wastes, such as their volume and specific activity, and the costs and environmental impacts of transporting the wastes to a large disposal site, such offsite disposal is demonstrated to be impracticable or the advantages of onsite burial clearly outweigh the benefits of reducing the perpetual surveillance obligations.

Criterion 3 – The "prime option" for disposal of tailings is placement below grade, either in mines or specially excavated pits (that is, where the need for any specially constructed retention structure is eliminated). The evaluation of alternative sites and disposal methods performed by mill operators in support of their proposed tailings disposal program (provided in applicants' environmental reports) must reflect serious consideration of this disposal mode. In some instances, below grade disposal may not be the most environmentally sound approach, such as might be the case if a groundwater formation is relatively close to the surface or not very well isolated by overlying soils and rock. Also, geologic and topographic conditions might make full below grade burial impracticable: For example, bedrock may be sufficiently near the surface that blasting would be required to excavate a disposal pit at

excessive cost, and more suitable alternative sites are not available. Where full below grade burial is not practicable, the size of retention structures, and size and steepness of slopes associated exposed embankments must be minimized by excavation to the maximum extent reasonably achievable or appropriate given the geologic and hydrologic conditions at a site. In these cases, it must be demonstrated that an above grade disposal program will provide reasonably equivalent isolation of the tailings from natural erosional forces.

Criterion 4 – The following site and design criteria must be adhered to whether tailings or wastes are disposed of above or below grade.

(a) Upstream rainfall catchment areas must be minimized to decrease erosion potential and the size of the floods which could erode or wash out sections of the tailings disposal area.

(b) Topographic features should provide good wind protection.

(c) Embankment and cover slopes must be relatively flat after final stabilization to minimize erosion potential and to provide conservative factors of safety assuring long-term stability. The broad objective should be to contour final slopes to grades which are as close as possible to those which would be provided if tailings were disposed of below grade; this could, for example, lead to slopes of about 10 horizontal to 1 vertical (10h:1v) or less steep. In general, slopes should not be steeper than about 5h:1v. Where steeper slopes are

proposed, reasons why a slope less steep than 5h:1v would be impracticable should be provided, and compensating factors and conditions which make such slopes acceptable should be identified.

(d) A full self-sustaining vegetative cover must be established or rock cover employed to reduce wind and water erosion to negligible levels.

Where a full vegetative cover is not likely to be self-sustaining due to climatic or other conditions, such as in semi-arid and arid regions, rock cover must be employed on slopes of the impoundment system. The NRC will consider relaxing this requirement for extremely gentle slopes such as those which may exist on the top of the pile.

The following factors must be considered in establishing the final rock cover design to avoid displacement of rock particles by human and animal traffic or by natural process, and to preclude undercutting and piping:

Shape, size, composition, and gradation of rock particles (excepting bedding material average particle size must be at least cobble size or greater);

Rock cover thickness and zoning of particles by size; and

Steepness of underlying slopes.

Individual rock fragments must be dense, sound, and resistant to abrasion, and must be free from cracks, seams, and other defects that would tend to unduly

increase their destruction by water and frost actions. Weak, friable, or laminated aggregate may not be used.

Rock covering of slopes may be unnecessary where top covers are very thick (on the order of 10 m or greater); impoundment slopes are very gentle (on the order of 10 h:1v or less); bulk cover materials have inherently favorable erosion resistance characteristics; and, there is negligible drainage catchment area upstream of the pile and good wind protection as described in points (a) and (b) of this Criterion.

Furthermore, all impoundment surfaces must be contoured to avoid areas of concentrated surface runoff or abrupt or sharp changes in slope gradient. In addition to rock cover on slopes, areas toward which surface runoff might be directed must be well protected with substantial rock cover (rip rap). In addition to providing for stability of the impoundment system itself, overall stability, erosion potential, and geomorphology of surrounding terrain must be evaluated to assure that there are not ongoing or potential processes, such as gully erosion, which would lead to impoundment instability.

(e) The impoundment may not be located near a capable fault that could cause a maximum credible earthquake larger than that which the impoundment could reasonably be expected to withstand. As used in this criterion, the term "capable fault" has the same meaning as defined in section III(g) of appendix A of 10 CFR part 100. The term "maximum credible earthquake" means that earthquake which would cause the

maximum vibratory ground motion based upon an evaluation of earthquake potential considering the regional and local geology and seismology and specific characteristics of local subsurface material.

(f) The impoundment, where feasible, should be designed to incorporate features which will promote deposition. For example, design features which promote deposition of sediment suspended in any runoff which flows into the impoundment area might be utilized; the object of such a design feature would be to enhance the thickness of cover over time.

Criterion 5 – Criteria 5A-5D and new Criterion 13 incorporate the basic ground-water protection standards imposed by the Environmental Protection Agency in 40 CFR part 192, subparts D and E (48 FR 45926; October 7, 1983) which apply during operations and prior to the end of closure. Ground-water monitoring to comply with these standards is required by Criterion 7A.

5A(1) – The primary ground-water protection standard is a design standard for surface impoundments used to manage uranium and thorium byproduct material. Unless exempted under paragraph 5A(3) of this criterion, surface impoundments (except for an existing portion) must have a liner that is designed, constructed, and installed to prevent any migration of wastes out of the impoundment to the adjacent subsurface soil, ground water, or surface water at any time during the active life (including the closure period) of the impoundment. The liner may be constructed of materials that may allow wastes to migrate into the liner (but

not into the adjacent subsurface soil, ground water, or surface water) during the active life of the facility, provided that impoundment closure includes removal or decontamination of all waste residues, contaminated containment system components (liners, etc.), contaminated subsoils, and structures and equipment contaminated with waste and leachate. For impoundments that will be closed with the liner material left in place, the liner must be constructed of materials that can prevent wastes from migrating into the liner during the active life of the facility.

5A(2) – The liner required by paragraph 5A(1) above must be –

(a) Constructed of materials that have appropriate chemical properties and sufficient strength and thickness to prevent failure due to pressure gradients (including static head and external hydrogeologic forces), physical contact with the waste or leachate to which they are exposed, climatic conditions, the stress of installation, and the stress of daily operation;

(b) Placed upon a foundation or base capable of providing support to the liner and resistance to pressure gradients above and below the liner to prevent failure of the liner due to settlement, compression, or uplift; and

(c) Installed to cover all surrounding earth likely to be in contact with the wastes or leachate.

5A(3) – The applicant or licensee will be exempted from the requirements of paragraph 5A(1) of this

criterion if the Commission finds, based on a demonstration by the applicant or licensee, that alternate design and operating practices, including the closure plan, together with site characteristics will prevent the migration of any hazardous constituents into ground water or surface water at any future time. . . .

5A(4) – A surface impoundment must be designed, constructed, maintained, and operated to prevent overtopping resulting from normal or abnormal operations, overfilling, wind and wave actions, rainfall, or run-on; from malfunctions of level controllers, alarms, and other equipment; and from human error.

5A(5) – When dikes are used to form the surface impoundment, the dikes must be designed, constructed, and maintained with sufficient structural integrity to prevent massive failure of the dikes. In ensuring structural integrity, it must not be presumed that the liner system will function without leakage during the active life of the impoundment.

5B(1) – Uranium and thorium byproduct materials must be managed to conform to the following secondary ground-water protection standard: Hazardous constituents entering the ground water from a licensed site must not exceed the specified concentration limits in the uppermost aquifer beyond the point of compliance during the compliance period. Hazardous constituents are those constituents identified by the Commission pursuant to paragraph 5B(2) of this criterion. Specified concentration limits are those limits

established by the Commission as indicated in paragraph 5B(5) of this criterion. The Commission will also establish the point of compliance and compliance period on a site specific basis through license conditions and orders. The objective in selecting the point of compliance is to provide the earliest practicable warning that the impoundment is releasing hazardous constituents to the ground water. The point of compliance must be selected to provide prompt indication of groundwater contamination on the hydraulically downgradient edge of the disposal area. The Commission shall identify hazardous constituents, establish concentration limits, set the compliance period, and may adjust the point of compliance if needed to accord with developed data and site information as to the flow of ground water or contaminants, when the detection monitoring established under Criterion 7A indicates leakage of hazardous constituents from the disposal area.

. . .

5B(5) – At the point of compliance, the concentration of a hazardous constituent must not exceed –

(a) The Commission approved background concentration of that constituent in the ground water;

(b) The respective value given in the table in paragraph 5C if the constituent is listed in the table and if the background level of the constituent is below the value listed; or

(c) An alternate concentration limit established by the Commission.

. . .

5D – If the ground-water protection standards established under paragraph 5B(1) of this criterion are exceeded at a licensed site, a corrective action program must be put into operation as soon as is practicable, and in no event later than eighteen (18) months after the Commission finds that the standards have been exceeded. The licensee shall submit the proposed corrective action program and supporting rationale for Commission approval prior to putting the program into operation, unless otherwise directed by the Commission. The objective of the program is to return hazardous constituent concentration levels in ground water to the concentration limits set as standards. The licensee's proposed program must address removing the hazardous constituents that have entered the ground water at the point of compliance or treating them in place. The program must also address removing or treating in place any hazardous constituents that exceed concentration limits in ground water between the point of compliance and the downgradient facility property boundary. The licensee shall continue corrective action measures to the extent necessary to achieve and maintain compliance with the ground-water protection standard. The Commission will determine when the licensee may terminate corrective action measures based on data from the ground-water monitoring program and other information that provide reasonable assurance that the ground-water protection standard will not be exceeded.

5E – In developing and conducting ground-water protection programs, applicants and licensees shall also consider the following:

(1) Installation of bottom liners (Where synthetic liners are used, a leakage detection system must be installed immediately below the liner to ensure major failures are detected if they occur. This is in addition to the ground-water monitoring program conducted as provided in Criterion 7. Where clay liners are proposed or relatively thin, in-situ clay soils are to be relied upon for seepage control, tests must be conducted with representative tailings solutions and clay materials to confirm that no significant deterioration of permeability or stability properties will occur with continuous exposure of clay to tailings solutions. Tests must be run for a sufficient period of time to reveal any effects if they are going to occur (in some cases deterioration has been observed to occur rather rapidly after about nine months of exposure)).

(2) Mill process designs which provide the maximum practicable recycle of solutions and conservation of water to reduce the net input of liquid to the tailings impoundment.

(3) Dewatering of tailings by process devices and/or in-situ drainage systems (At new sites, tailings must be dewatered by a drainage system installed at the bottom of the impoundment to lower the phreatic surface and reduce the driving head of seepage, unless tests show tailings are not amenable to such a system.

Where in-situ dewatering is to be conducted, the impoundment bottom must be graded to assure that the drains are at a low point. The drains must be protected by suitable filter materials to assure that drains remain free running. The drainage system must also be adequately sized to assure good drainage).

(4) Neutralization to promote immobilization of hazardous constituents.

5F – Where ground-water impacts are occurring at an existing site due to seepage, action must be taken to alleviate conditions that lead to excessive seepage impacts and restore ground-water quality. The specific seepage control and ground-water protection method, or combination of methods, to be used must be worked out on a site-specific basis. Technical specifications must be prepared to control installation of seepage control systems. A quality assurance, testing, and inspection program, which includes supervision by a qualified engineer or scientist, must be established to assure the specifications are met.

5G – In support of a tailings disposal system proposal, the applicant/operator shall supply information concerning the following:

(1) The chemical and radioactive characteristics of the waste solutions.

(2) The characteristics of the underlying soil and geologic formations particularly as they will control transport of contaminants and solutions. This includes

detailed information concerning extent, thickness, uniformity, shape, and orientation of underlying strata. Hydraulic gradients and conductivities of the various formations must be determined. This information must be gathered from borings and field survey methods taken within the proposed impoundment area and in surrounding areas where contaminants might migrate to ground water. The information gathered on boreholes must include both geologic and geophysical logs in sufficient number and degree of sophistication to allow determining significant discontinuities, fractures, and channeled deposits of high hydraulic conductivity. If field survey methods are used, they should be in addition to and calibrated with borehole logging. Hydrologic parameters such as permeability may not be determined on the basis of laboratory analysis of samples alone; a sufficient amount of field testing (e.g., pump tests) must be conducted to assure actual field properties are adequately understood. Testing must be conducted to allow estimating chemi-sorption attenuation properties of underlying soil and rock.

(3) Location, extent, quality, capacity and current uses of any ground water at and near the site.

5H – Steps must be taken during stockpiling of ore to minimize penetration of radionuclides into underlying soils; suitable methods include lining and/or compaction of ore storage areas.

Criterion 6 – (1) In disposing of waste byproduct material, licensees shall place an earthen cover (or approved alternative) over tailings or wastes at the end

of milling operations and shall close the waste disposal area in accordance with a design[1] which provides reasonable assurance of control of radiological hazards to (i) be effective for 1,000 years, to the extent reasonably achievable, and, in any case, for at least 200 years, and (ii) limit releases of radon-222 from uranium byproduct materials, and radon-220 from thorium byproduct materials, to the atmosphere so as not to exceed an average[2] release rate of 20 picocuries per square meter per second (pCi/m^{2}s) to the extent practicable throughout the effective design life determined pursuant to (1)(i) of this Criterion. In computing required tailings cover thicknesses, moisture in soils in excess of amounts found normally in similar soils in similar circumstances may not be considered. Direct gamma exposure from the tailings or wastes should be reduced to background levels. The effects of any thin synthetic layer may not be taken into account in determining the calculated radon exhalation level. If non-soil materials are proposed as cover materials, it must be demonstrated that these materials will not crack or degrade

---

[1] In the case of thorium byproduct materials, the standard applies only to design. Monitoring for radon emissions from thorium byproduct materials after installation of an appropriately designed cover is not required.

[2] This average applies to the entire surface of each disposal area over a period of at least one year, but a period short compared to 100 years. Radon will come from both byproduct materials and from covering materials. Radon emissions from covering materials should be estimated as part of developing a closure plan for each site. The standard, however, applies only to emissions from byproduct materials to the atmosphere.

by differential settlement, weathering, or other mechanism, over long-term intervals.

(2) As soon as reasonably achievable after emplacement of the final cover to limit releases of radon-222 from uranium byproduct material and prior to placement of erosion protection barriers or other features necessary for long-term control of the tailings, the licensee shall verify through appropriate testing and analysis that the design and construction of the final radon barrier is effective in limiting releases of radon-222 to a level not exceeding 20 pCi/m^{2}s averaged over the entire pile or impoundment using the procedures described in 40 CFR part 61, appendix B, Method 115, or another method of verification approved by the Commission as being at least as effective in demonstrating the effectiveness of the final radon barrier.

(3) When phased emplacement of the final radon barrier is included in the applicable reclamation plan, the verification of radon-222 release rates required in paragraph (2) of this criterion must be conducted for each portion of the pile or impoundment as the final radon barrier for that portion is emplaced.

(4) Within ninety days of the completion of all testing and analysis relevant to the required verification in paragraphs (2) and (3) of this criterion, the uranium mill licensee shall report to the Commission the results detailing the actions taken to verify that levels of release of radon-222 do not exceed 20 pCi/m^{2}s when averaged over the entire pile or impoundment. The licensee shall maintain records until termination of the

license documenting the source of input parameters including the results of all measurements on which they are based, the calculations and/or analytical methods used to derive values for input parameters, and the procedure used to determine compliance. These records shall be kept in a form suitable for transfer to the custodial agency at the time of transfer of the site to DOE or a State for long-term care if requested.

(5) Near surface cover materials (i.e., within the top three meters) may not include waste or rock that contains elevated levels of radium; soils used for near surface cover must be essentially the same, as far as radioactivity is concerned, as that of surrounding surface soils. This is to ensure that surface radon exhalation is not significantly above background because of the cover material itself.

(6) The design requirements in this criterion for longevity and control of radon releases apply to any portion of a licensed and/or disposal site unless such portion contains a concentration of radium in land, averaged over areas of 100 square meters, which, as a result of byproduct material, does not exceed the background level by more than: (i) 5 picocuries per gram (pCi/g) of radium-226, or, in the case of thorium byproduct material, radium-228, averaged over the first 15 centimeters (cm) below the surface, and (ii) 15 pCi/g of radium-226, or, in the case of thorium byproduct material, radium-228, averaged over 15-cm thick layers more than 15 cm below the surface.

Byproduct material containing concentrations of radionuclides other than radium in soil, and surface activity on remaining structures, must not result in a total effective dose equivalent (TEDE) exceeding the dose from cleanup of radium contaminated soil to the above standard (benchmark dose), and must be at levels which are as low as is reasonably achievable. If more than one residual radionuclide is present in the same 100-square-meter area, the sum of the ratios for each radionuclide of concentration present to the concentration limit will not exceed "1" (unity). A calculation of the potential peak annual TEDE within 1000 years to the average member of the critical group that would result from applying the radium standard (not including radon) on the site must be submitted for approval. The use of decommissioning plans with benchmark doses which exceed 100 mrem/yr, before application of ALARA, requires the approval of the Commission after consideration of the recommendation of the NRC staff. This requirement for dose criteria does not apply to sites that have decommissioning plans for soil and structures approved before June 11, 1999.

(7) The licensee shall also address the nonradiological hazards associated with the wastes in planning and implementing closure. The licensee shall ensure that disposal areas are closed in a manner that minimizes the need for further maintenance. To the extent necessary to prevent threats to human health and the environment, the licensee shall control, minimize, or eliminate post-closure escape of nonradiological hazardous constituents, leachate, contaminated

rainwater, or waste decomposition products to the ground or surface waters or to the atmosphere.

Criterion 6A – (1) For impoundments containing uranium byproduct materials, the final radon barrier must be completed as expeditiously as practicable considering technological feasibility after the pile or impoundment ceases operation in accordance with a written, Commission-approved reclamation plan. (The term as expeditiously as practicable considering technological feasibility as specifically defined in the Introduction of this appendix includes factors beyond the control of the licensee.) Deadlines for completion of the final radon barrier and, if applicable, the following interim milestones must be established as a condition of the individual license: windblown tailings retrieval and placement on the pile and interim stabilization (including dewatering or the removal of freestanding liquids and recontouring). The placement of erosion protection barriers or other features necessary for long-term control of the tailings must also be completed in a timely manner in accordance with a written, Commission-approved reclamation plan.

. . .

Criterion 7 – At least one full year prior to any major site construction, a preoperational monitoring program must be conducted to provide complete baseline data on a milling site and its environs. Throughout the construction and operating phases of the mill, an operational monitoring program must be conducted to

measure or evaluate compliance with applicable standards and regulations; to evaluate performance of control systems and procedures; to evaluate environmental impacts of operation; and to detect potential long-term effects.

7A – The licensee shall establish a detection monitoring program needed for the Commission to set the site-specific ground-water protection standards in paragraph 5B(1) of this appendix. For all monitoring under this paragraph the licensee or applicant will propose for Commission approval as license conditions which constituents are to be monitored on a site specific basis. A detection monitoring program has two purposes. The initial purpose of the program is to detect leakage of hazardous constituents from the disposal area so that the need to set ground-water protection standards is monitored. If leakage is detected, the second purpose of the program is to generate data and information needed for the Commission to establish the standards under Criterion 5B. The data and information must provide a sufficient basis to identify those hazardous constituents which require concentration limit standards and to enable the Commission to set the limits for those constituents and the compliance period. They may also need to provide the basis for adjustments to the point of compliance. For licenses in effect September 30, 1983, the detection monitoring programs must have been in place by October 1, 1984. For licenses issued after September 30, 1983, the detection monitoring programs must be in place when

specified by the Commission in orders or license conditions. Once ground-water protection standards have been established pursuant to paragraph 5B(1), the licensee shall establish and implement a compliance monitoring program. The purpose of the compliance monitoring program is to determine that the hazardous constituent concentrations in ground water continue to comply with the standards set by the Commission. In conjunction with a corrective action program, the licensee shall establish and implement a corrective action monitoring program. The purpose of the corrective action monitoring program is to demonstrate the effectiveness of the corrective actions. Any monitoring program required by this paragraph may be based on existing monitoring programs to the extent the existing programs can meet the stated objective for the program.

Criterion 8 – Milling operations must be conducted so that all airborne effluent releases are reduced to levels as low as is reasonably achievable. The primary means of accomplishing this must be by means of emission controls. Institutional controls, such as extending the site boundary and exclusion area, may be employed to ensure that offsite exposure limits are met, but only after all practicable measures have been taken to control emissions at the source. Notwithstanding the existence of individual dose standards, strict control of emissions is necessary to assure that population exposures are reduced to the maximum extent reasonably achievable and to avoid site contamination. The greatest potential sources of offsite radiation exposure

(aside from radon exposure) are dusting from dry surfaces of the tailings disposal area not covered by tailings solution and emissions from yellowcake drying and packaging operations. During operations and prior to closure, radiation doses from radon emissions from surface impoundments of uranium or thorium byproduct materials must be kept as low as is reasonably achievable.

Checks must be made and logged hourly of all parameters (e.g., differential pressures and scrubber water flow rates) that determine the efficiency of yellowcake stack emission control equipment operation. The licensee shall retain each log as a record for three years after the last entry in the log is made. It must be determined whether or not conditions are within a range prescribed to ensure that the equipment is operating consistently near peak efficiency; corrective action must be taken when performance is outside of prescribed ranges. Effluent control devices must be operative at all times during drying and packaging operations and whenever air is exhausting from the yellowcake stack. Drying and packaging operations must terminate when controls are inoperative. When checks indicate the equipment is not operating within the range prescribed for peak efficiency, actions must be taken to restore parameters to the prescribed range. When this cannot be done without shutdown and repairs, drying and packaging operations must cease as soon as practicable. Operations may not be restarted after cessation due to off-normal performance until needed corrective actions have been identified and implemented.

All these cessations, corrective actions, and restarts must be reported to the appropriate NRC regional office as indicated in Criterion 8A, in writing, within ten days of the subsequent restart.

To control dusting from tailings, that portion not covered by standing liquids must be wetted or chemically stabilized to prevent or minimize blowing and dusting to the maximum extent reasonably achievable. This requirement may be relaxed if tailings are effectively sheltered from wind, such as may be the case where they are disposed of below grade and the tailings surface is not exposed to wind. Consideration must be given in planning tailings disposal programs to methods which would allow phased covering and reclamation of tailings impoundments because this will help in controlling particulate and radon emissions during operation. To control dusting from diffuse sources, such as tailings and ore pads where automatic controls do not apply, operators shall develop written operating procedures specifying the methods of control which will be utilized.

Milling operations producing or involving thorium byproduct material must be conducted in such a manner as to provide reasonable assurance that the annual dose equivalent does not exceed 25 millirems to the whole body, 75 millirems to the thyroid, and 25 millirems to any other organ of any member of the public as a result of exposures to the planned discharge of radioactive materials, radon-220 and its daughters excepted, to the general environment.

Uranium and thorium byproduct materials must be managed so as to conform to the applicable provisions of title 40 of the Code of Federal Regulations, part 440, "Ore Mining and Dressing Point Source Category: Effluent Limitations Guidelines and New Source Performance Standards, subpart C, Uranium, Radium, and Vanadium Ores Subcategory," as codified on January 1, 1983.

Criterion 8A – Daily inspections of tailings or waste retention systems must be conducted by a qualified engineer or scientist and documented. The licensee shall retain the documentation for each daily inspection as a record for three years after the documentation is made. The appropriate NRC regional office as indicated in appendix D to 10 CFR part 20 of this chapter, or the Director, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, must be immediately notified of any failure in a tailings or waste retention system that results in a release of tailings or waste into unrestricted areas, or of any unusual conditions (conditions not contemplated in the design of the retention system) that if not corrected could indicate the potential or lead to failure of the system and result in a release of tailings or waste into unrestricted areas.

II. Financial Criteria

Criterion 9 – (a) Financial surety arrangements must be established by each mill operator before the commencement of operations to assure that sufficient

funds will be available to carry out the decontamination and decommissioning of the mill and site and for the reclamation of any tailings or waste disposal areas. . . .

. . .

IV. Long-Term Site Surveillance

Criterion 12 – The final disposition of tailings, residual radioactive material, or wastes at milling sites should be such that ongoing active maintenance is not necessary to preserve isolation. As a minimum, annual site inspections must be conducted by the government agency responsible for long-term care of the disposal site to confirm its integrity and to determine the need, if any, for maintenance and/or monitoring. Results of the inspections for all the sites under the licensee's jurisdiction will be reported to the Commission annually within 90 days of the last site inspection in that calendar year. Any site where unusual damage or disruption is discovered during the inspection, however, will require a preliminary site inspection report to be submitted within 60 days. On the basis of a site specific evaluation, the Commission may require more frequent site inspections if necessary due to the features of a particular disposal site. In this case, a preliminary inspection report is required to be submitted within 60 days following each inspection.

. . .

Va. Code § 45.1-161.292:30

License required for operation of mineral mines; term

A. No person shall engage in the operation of any mineral mine within this Commonwealth without first obtaining a license from the Department. A license shall be required prior to commencement of the operation of a mine.

. . .

Va. Code § 45.1-181

Permit required; fee; renewal fee; application; furnishing copy of map, etc., to landowner; approval by Department

It is unlawful for any operator to engage in any mining operation in Virginia, without having first obtained from the Department a permit to engage in such operation and paying a fee therefor of $31 per acre for every acre of land to be affected by the total operation for which plans have been submitted, which shall be deposited in the state treasury in a special fund to be used by the Director for the administration of this chapter. A permit shall be obtained prior to the start of any mining operation. . . . .

Va. Code § 45.1-283

Uranium mining permit applications; when accepted; uranium mining deemed to have significant effect on surface

Notwithstanding any other provision of law, permit applications for uranium mining shall not be accepted by any agency of the Commonwealth prior to July 1, 1984, and until a program for permitting uranium mining is established by statute. . . .

Act of Feb. 20, 1981, H.J. Res. 324, 1981 Va. Acts 1404

WHEREAS, it is estimated that more than fifty thousand acres of land in the Commonwealth have been leased for uranium exploration, mining and milling; and

WHEREAS, the exploration for, and the mining and milling of, uranium in other states has created the need for environmental controls and has raised substantial questions concerning the health, safety, and welfare of persons living in the vicinity of mining and milling activities; and

WHEREAS, the areas in the Commonwealth where land has been leased for uranium exploration, mining or milling are generally more densely populated than are similar areas in states where uranium exploration, mining and milling have previously occurred; and

WHEREAS, a study of the environmental effects and the possible hazards to the health, safety, and welfare of citizens living in proximity to uranium operations is appropriate; now, therefore, be it

RESOLVED by the House of Delegates, the Senate concurring, That the Virginia Coal and Energy Commission is requested to evaluate the environmental effects of uranium exploration, mining and milling which may be expected to occur in the Commonwealth and any possible detriments to the health, safety, and welfare of Virginia citizens which may result from uranium exploration, mining or milling. The Commission is to make such recommendations as it deems appropriate and necessary prior to December 31, 1981.

Act of Apr. 7, 1982, ch. 269, 1982 Va. Acts 426

Be it enacted by the General Assembly of Virginia:

1. That the Code of Virginia is amended by adding in Title 45.1 a chapter numbered 21, consisting of sections numbered 45.1-272 through 45.1-285, as follows:

CHAPTER 21.

EXPLORATION FOR URANIUM ORE

§ 45.1-272. Legislative findings; declaration of policy. – The mining of uranium within the Commonwealth has the potential to provide Its citizens with employment opportunities and other economic benefits.

It also offers the Commonwealth and the nation the possibility of developing valuable resources that can be used to produce energy in a clean, efficient manner and lessen this country's dependence on foreign energy supplies.

At the same time, the General Assembly finds that the improper and unregulated exploration for uranium can adversely affect the health, safety, and general welfare of the citizens of this Commonwealth.

The General Assembly also finds that the adoption of additional statutes during the 1983 Session of the General Assembly may be necessary in order to assure that any uranium mining and milling which may occur in the Commonwealth will not adversely affect the environment or the public health and safety.

The purposes of this chapter are to encourage and promote the safe and efficient exploration for uranium resources within the Commonwealth, and to assure, pursuant to § 45.1-284 of this Code, that uranium mining and milling will be subject to statutes and regulations which protect the environment and the health and safety of the public.

§ 45.1-273. Definitions. – The following words shall have the meanings respectively ascribed thereto:

"Chief" means the Chief of the Division of Mines of the Department of Labor and Industry or such other public officer, employee, board, commission or other authority that in emergencies may be acting in the stead, or by law be assigned the duties and authority, of the

Chief of the Division of Mines of the Department of Labor and Industry.

"Exploration Activity" means and shall be limited to the drilling of test holes or stratigraphic or core holes of a depth in excess of fifty feet for the purpose of determining the location, quantity, or quality of uranium ore.

"Person" shall mean any individual, firm, corporation, partnership, association or other legal entity.

§ 45.1-274. Permit for exploration activity required; fee. – A. It shall be unlawful for any person to commence any exploration activity as defined herein without first obtaining a permit to do so from the Chief. The application for the permit shall be in such form as the Chief may prescribe and shall be accompanied by a fee of $250 and such other information as may be required by this chapter.

B. The application for a permit to carry out any exploration activity shall be accompanied by a bond, payable to the Commonwealth, with surety acceptable to the Chief. The bond shall ensure compliance with the provisions of this chapter and any regulations promulgated hereunder relating to the drilling, redrilling, plugging and abandoning of any exploration activity. The bond shall be set by the Chief in such amount as may be deemed reasonable and necessary.

C. An initial permit shall be valid for a period of one year, and may be renewed for a like period of time.

§ 45.1-275. Maps or plats of proposed exploration activity area. – Before undertaking any exploration activity on any tract of land, the person proposing the exploration activity shall prepare or have prepared and file with the Chief, together with the application required by § 45.1-274 of this Code, an accurate map, on a scale to be stated thereon, showing the location of the proposed exploration activity; the courses and distances of such activity from two permanent points or landmarks on the tract; the approximate location areas in which test holes or core or stratigraphic holes may be drilled; the name of the owner; and boundaries and acreage of the tract on which the exploration activity is to take place.

§ 45.1-276. Abandoning exploration hole; affidavits required. – Within forty-five days after the abandonment of any exploration hole, the permittee shall notify the Chief that such exploration hole has been plugged and abandoned, giving the location of such hole. The permittee shall submit an affidavit, in triplicate, which shall set forth the time and manner in which the hole was plugged and filled. One copy of this affidavit shall be retained by the permittee, one sent to the State Geologist, and the third shall be mailed to the Chief.

§ 45.1-277. Plugging. – The plugging of exploration holes shall be as follows:

1. All exploration holes shall be adequately plugged with cement from the bottom of the hole

upward to a point three feet below plow depth. The remainder of the hole between the top of the plug and the surface shall be filled with cuttings or nontoxic material.

2. If multiple aquifers alternating usable quality water arid salt water zones, or other conditions determined by the Chief to be potentially deleterious to surface or ground water are encountered, the conditions must be isolated immediately by cement plugs. "Usable quality water" is defined as ground water that is used or can be used for a beneficial purpose, including, but not limited to, domestic, livestock, or irrigation uses. Each hole shall be plugged with cement to prevent water from flowing into or out of the hole or mixing within the hole. The length of the plug shall be determined by the Chief based on available data on the specific site.

3. Each exploration hole shall be plugged as soon as reasonably practical after drilling, unless multiple aquifers are encountered.

4. Alternative plugging procedures and materials may be utilized when the applicant has demonstrated to the Chief's satisfaction that the alternatives will protect ground waters and comply with the provisions of this chapter. In the event that a hole is more suitably plugged with a nonporous material other than cement, the material shall have characteristics at least equal to cement.

5. In the event that an exploration hole is to remain unplugged pursuant to the provisions of § 45.1-278 of this Code, the procedure contained in paragraph

2, if applicable, shall be applied and the exploration hole shall be plugged to the extent required by that paragraph.

§ 45.1-278. Developing exploration hole as water well. – If any exploration hole drilled for the purpose of determining the location, quantity or quality of uranium ore indicates a stratum or source of potable fresh water which could be developed pursuant to established EPA safe drinking water standards for a community water system, upon the request of the owner of the property on which the exploration hole is located and on application to and approval by the Chief, who shall secure concurrence from the Department of Health, the well, in lieu of being plugged and abandoned, may be developed and completed as a water well. The development and completion of an exploration hole as a water well shall be performed in accordance with applicable state water control law and regulation.

§ 45.1-279. Rules and regulations. – The Chief shall promulgate such rules and regulations as may be necessary and proper to carry out the provisions of this chapter.

§ 45.1-280. Right of inspection by Chief. – For the purposes of carrying out the provisions of this chapter, the Chief is hereby vested with authority to inspect at reasonable times and in a reasonable manner any area or areas for which he has received an application for a permit, or granted a permit, for exploration activity.

§ 45.1-281. Administrative Process Act applicable. – The provisions of the Administrative Process Act

(§ 96.12:1 et seq. of this Code) shall be applicable to the provisions of this chapter.

§ 45.1-282. Penalties. – A. Any person who violates any provision of this chapter, or who fails, neglects or refuses to comply with any rule or regulation issued by the Chief, or final order of a court lawfully issued, shall be subject to a civil penalty, not to exceed $10,000, for each violation. Each day of violation shall constitute a separate offense.

B. The Chief shall have the authority to restrain violations of this chapter in accordance with the provisions of § 45.1-141 of this Code.

§ 45.1-283. Uranium Mining Permit Applications. – Notwithstanding any other provision of law, permit applications for uranium mining shall not be accepted by any agency of the Commonwealth prior to July l, 1983. For the purpose of construing § 45.1-180(a) of this Code, uranium mining shall be deemed to have a significant effect on the surface.

§ 45.1-284. State and local authority. – Nothing contained in this chapter shall be construed to alter the authority of any state or local governing body, including the authorities conferred under Chapter 11 of Title 15.1 of this Code, relative to matters which are the subject of this chapter.

§ 45.1-285. Confidentiality of logs, surveys and reports. – The Chief shall hold confidential all logs, surveys, plats and reports filed under this chapter by those engaged in the exploration for uranium for a period of

two years after the completion of the exploratory activities. Further, upon written request by any person engaged in the exploration for uranium, the Chief shall hold confidential all logs, surveys, plats and reports filed under this chapter for all additional two-year periods. Such request shall be granted by the Chief if the requesting party certifies that he considers all such information to be of a proprietary nature relating to his competitive rights. Nothing in this section shall be construed to deny to the State Geologist the access to all logs, surveys, plats and reports filed under this chapter. The State Geologist, however, shall be bound to hold this information confidential to the same extent as the Chief is bound.

2. That an emergency exists and this act is in force from its passage.

Act of Feb. 24, 1983, ch. 3, 1983 Va. Acts 3

Be it enacted by the General Assembly of Virginia:

1. That § 45.1-283 of the Code of Virginia is amended and reenacted and that the Code of Virginia is amended by adding In Chapter 21 of Title 45.1, an article numbered 2, consisting of sections numbered 45.1-285.l through 45.1-285.10 as follows:

§ 45.1-283. Uranium mining permit applications. – Notwithstanding any other provision of law, permit applications for uranium mining shall not be accepted by any agency of the Commonwealth prior to July 1,

~~1983~~ *1984 and until a program for permitting uranium mining is established by statute.* For the purpose of construing § 45.1-180(a) of this Code, uranium mining shall be deemed to have a significant effect on the surface.

Article 2.

Uranium Administrative Group; Functions.

§ 45.1-285.1. Findings; declaration of policy. – The General Assembly finds: (i) that while uranium mining and milling activity can generate substantial benefits, it also raises a wide range of environmental and other local concerns; and (ii) that a preliminary study, identifying many potential environmental and other effects of uranium development and describing procedures and responsibilities that the Commonwealth and a proponent would be obligated to accept if development were to proceed, has not identified any environmental or public health concern that could preclude uranium development in Virginia.

The General Assembly further finds, however, that a possibility exists that certain impacts of uranium development activity may reduce or potentially limit certain uses of Virginia environment and resources, and that therefore additional evaluation of the costs and benefits of such activity is necessary before a final decision can be made regarding its acceptability in the Commonwealth. The General Assembly encourages private industry to participate in further studies and analyses of the costs and benefits of uranium mining and

milling activity in the Commonwealth. Evaluation of these costs and benefits will be enhanced by further studies pertaining to Pittsylvania County where preliminary study has focused and where uranium development activity is currently contemplated by proponents.

The General Assembly emphasizes that uranium mining and milling activity presents issues of great concern to the public. It therefore encourages public participation in the deliberations concerning these issues.

§ 45.1-285.2. Definitions. – The following words shall have the meanings respectively ascribed thereto:

"Commission" shall mean the Virginia Coal and Energy Commission.

"Decommissioning" shall mean the process by which mining, milling and tailings management operations are terminated and the associated facilities removed or rendered inactive.

"Group" shall mean the Uranium Administrative Group established in § 45.1-285.3 of this Code.

"Milling" shall mean the operation by which uranium ore is processed or treated to extract uranium.

"Mining" shall mean any activity meeting the definition of mining in § 45.1-180(a) of Chapter 16 of this title. For the purpose of construing § 45.1-180(a) of Chapter 16 of this title, uranium mining shall be construed to have a significant effect on the surface.

"Person" shall mean any individual, firm, corporation, partnership, association or other legal entity.

"Reclamation" shall mean any activity meeting the definition of reclamation in § 45.1-180(k) of Chapter 16 of this title.

"Tailings" shall mean the residue remaining after extraction of uranium from uranium ore whether or not the residue is left in piles, but shall not include ore bodies or ore stock piles. "Tailings management" means the methods by which tailings are handled, stored or disposed of.

§ 45.1-285.3. Uranium Administrative Group. – In order to effectuate the provisions of this Chapter, there is created a Uranium Administrative Group which shall be composed of the following: the Chairman of the Commission or his designee who shall also serve as Chairman of the Group; the Administrator of the Council on the Environment or her designee; the Executive Director of the State Water Control Board; the Executive Director of the State Air Pollution Control Board; the Commissioner of the State Board of Health; the Director of the Department of Conservation and Economic Development; the Commissioner of the Department of Agriculture and Consumer Services; the Director of the Division of Industrial Development; one member to be designated by the local governing body of Pittsylvania County; one member to be designated by the local governing body of Halifax County; two members to be designated by the Chairman of the Commission from the

State at large and two members to be designated by the Governor from the State at large.

§ 45.1-285.4. Employment of consultants; other support. – In performing the duties established in this article, the Group shall have the authority to employ consultants and each state agency representative shall designate one or more individuals from the respective agencies to assist in the administrative functions necessitated by the duties established in this chapter. For purposes of the performance of these duties, the individuals shall be directly responsible to the Chairman of the Group.

§ 45.1-285.5. Duties of the Group. – The Group shall perform the following duties:

A. Review, comment on and approve any proposals submitted by persons for studying the effects of uranium development activity at specific sites in Pittsylvania County to determine whether such study proposals address each of the statutory criteria established by§ 45.1-285.6 of this article.

B. Evaluate, in light of the statutory criteria established by § 45.1-285.6 of this Code and with the aid of independent consultants, and participation by the public, if appropriate, any study submitted by private parties which analyzes the effects of uranium development activity at specific sites in Pittsylvania County.

C. Based on studies that analyze each of the statutory criteria established by § 45.1-285.6 of this Code submitted pursuant to a study plan filed in accordance

with § 45.1-285.9, present a report to the Commission by December l, 1983. The report shall:

1. Explain with respect to each specific site in Pittsylvania County that has been subject to a study meeting the criteria of this chapter: the costs and benefits of permitting uranium development at the specific site, including any beneficial or adverse effects that cannot be quantified and a description of the persons or classes of persons likely to receive the benefits or bear the costs; the reasonable alternatives for achieving the identified benefits of the uranium development activity, including an alternative siting analysis; and

2. In light of the results of site-specific studies under this chapter, discuss the advantages and disadvantages of enacting legislation under which permits could be issued for uranium mining and milling in Pittsylvania County or at specified locations therein; and

3. Include draft legislation for consideration of the Commission, if appropriate, regulating the mining and milling of uranium in Pittsylvania County and reasonably assuring that appropriate planning, design, operating, decommissioning and post-closure procedures are followed to minimize adequately any adverse environmental or human health consequences; and

4. Discuss the advantages and disadvantages of seeking agreement with the federal government providing for discontinuance of the federal government's responsibility for regulating uranium milling and tailings management. In making this recommendation

the Group shall assess the adequacy of existing federal and state health, safety and environmental standards pertaining to uranium development activity; and

5. Discuss the Group's consultation with federal and state agencies, including the United States Nuclear Regulatory Commission, having expertise relevant to regulating uranium development activity; and

6. The report of the Group to the Commission may include specific recommendations if they are deemed appropriate, or

7. Advise the Commission that additional studies or a continuation of existing studies are necessary in order to adequately report under paragraphs 1-6 of this section.

§ 45.1-285.6. Study criteria. – The Group shall base its analysis of the costs and benefits of permitting uranium development at specific sites in Pittsylvania County on the criteria set out in this section. Any study submitted to the Group pursuant to this chapter shall address each of these criteria. The Group shall ensure that it shall receive information, from whatever sources, adequate to analyze each of the criteria:

A. Site suitability including geological, hydrological, hydrogeological, seismological, biological and meteorological characteristics, demography, and current uses of the land in the vicinity of the site.

B. Analysis of all pathways by which radionuclides and other contaminants may enter or affect ground waters, receiving surface waters, and the air

and the biota and be transmitted to critical receptors as a result of mining, milling and tailings management at the specific site; the estimated cumulative dose to such critical receptors; and available data on the baseline radioactive, chemical and physical characteristics of the ground waters, receiving surface waters, air and the biota identified in the pathway analysis as potentially subject to increased levels of contamination.

C. Plans for monitoring changes from the baseline radioactive and chemical characteristics of the ground water, receiving surface waters, air and the biota identified in the pathway analysis as potentially subject to increased levels of contamination.

D. The qualifications of the potential applicant or applicants to conduct uranium development activity at the specific site, including technical and financial qualifications and past operating experience and practices.

E. The specific nature of the proposed mining, milling and tailings management activity, including:

1. With respect to mining activity, the type of mining operation and the equipment to be used; the anticipated duration of the mining operation and the number of acres to be affected; a detailed map of the site; the result of test borings or core samplings from the site; the amount of soil and waste rock to be stockpiled; plans for surface water and ground water drainage and diversion facilities; plans for domestic and mine water and waste handling systems; the quantity and quality of atmospheric releases and the methods for controlling

such releases; and plans for protecting the occupational health and safety of employees working in the mines.

2. With respect to milling activity, the capacity of the mill; the processes to be used in milling and ore extraction; the reagents and processing materials to be used; flow diagrams and materials balance for raw materials, reagents, processing materials, finished products and by-products for the various process units; the quantity of water to be used and the water balance In the plant; the quantity and quality of liquid and solid wastes to be produced; the quantity and quality of atmospheric releases and the methods for controlling such releases; the methods for monitoring emissions from the processing facilities; the method for conveying tailings and wastewater from the mill; and plans for protecting the occupational health and safety of employees working in the mill.

3. With respect to tailings management, the quantity and characteristics of the tailings; the method of disposal; the size of the tailings disposal area; the method of liquid effluent treatment; the hydrology, hydrogeology, and surficial and bedrock geology of the disposal area; stability analysis for all embankments; seepage management techniques; seepage and ground water monitoring facilities; treatment systems for the removal of solids, radionuclides, heavy metals and other substances from wastewaters; systems for diversion of fresh water away from the tailings management area; and the quantity and quality of atmospheric releases and the methods for controlling such releases.

and the biota and be transmitted to critical receptors as a result of mining, milling and tailings management at the specific site; the estimated cumulative dose to such critical receptors; and available data on the baseline radioactive, chemical and physical characteristics of the ground waters, receiving surface waters, air and the biota identified in the pathway analysis as potentially subject to increased levels of contamination.

C. Plans for monitoring changes from the baseline radioactive and chemical characteristics of the ground water, receiving surface waters, air and the biota identified in the pathway analysis as potentially subject to increased levels of contamination.

D. The qualifications of the potential applicant or applicants to conduct uranium development activity at the specific site, including technical and financial qualifications and past operating experience and practices.

E. The specific nature of the proposed mining, milling and tailings management activity, including:

1. With respect to mining activity, the type of mining operation and the equipment to be used; the anticipated duration of the mining operation and the number of acres to be affected; a detailed map of the site; the result of test borings or core samplings from the site; the amount of soil and waste rock to be stockpiled; plans for surface water and ground water drainage and diversion facilities; plans for domestic and mine water and waste handling systems; the quantity and quality of atmospheric releases and the methods for controlling

such releases; and plans for protecting the occupational health and safety of employees working in the mines.

2. With respect to milling activity, the capacity of the mill; the processes to be used in milling and ore extraction; the reagents and processing materials to be used; flow diagrams and materials balance for raw materials, reagents, processing materials, finished products and by-products for the various process units; the quantity of water to be used and the water balance In the plant; the quantity and quality of liquid and solid wastes to be produced; the quantity and quality of atmospheric releases and the methods for controlling such releases; the methods for monitoring emissions from the processing facilities; the method for conveying tailings and wastewater from the mill; and plans for protecting the occupational health and safety of employees working in the mill.

3. With respect to tailings management, the quantity and characteristics of the tailings; the method of disposal; the size of the tailings disposal area; the method of liquid effluent treatment; the hydrology, hydrogeology, and surficial and bedrock geology of the disposal area; stability analysis for all embankments; seepage management techniques; seepage and ground water monitoring facilities; treatment systems for the removal of solids, radionuclides, heavy metals and other substances from wastewaters; systems for diversion of fresh water away from the tailings management area; and the quantity and quality of atmospheric releases and the methods for controlling such releases.

F. Plans, during active operations, transition and post-closure phases, for decommissioning, reclamation and securing of the mining, milling and tailings management facilities, including any research required to demonstrate the effectiveness of such plans.

G. Analysis of potential accidents in connection with the proposed mining, milling, tailings management, decommissioning and post-closure activity and contingency plans for responding to such accidents.

H. The extent of radiological, or nonradiological impacts resulting from mining, milling, tailings management, decommissioning and post-closure activities with particular attention to the following possible effects:

1. The contamination of local ground water and surface water by discharges from mining, milling and tailings management, and the loss of such waters as suitable water supply sources, including the extent to which applicable regulatory standards may be exceeded.

2. The reduction or loss of yields from wells due to mine dewatering, or other mining, milling or tailings management activities, and the subsequent drawdown of the surrounding water table.

3. The loss of use of local ground water and surface water sources resulting from the migration of radionuclides and other contaminants from the former

mining or tailings area after decommissioning, including the extent to which applicable regulatory standards may be exceeded.

4. The need to avoid full-time human residency within a certain radius of the property during operations due to emission of radon, other radionuclides, or dust from mining, milling and tailings management.

5. The permanent preclusion of the tailings management area after decommissioning from certain land use activities.

6. Any other effects that would impair use of the local environment during operations or after decommissioning.

I. The socioeconomic effects of the uranium development activity at the specific site and its associated regulation on the local community and the Commonwealth.

J. A description of the costs and benefits of allowing the proposed uranium development activity to proceed at the specific site, including any beneficial or adverse effects that cannot be quantified and a description of the persons or groups of persons likely to receive the benefits or bear the costs; a description of reasonable alternatives for achieving the identified benefits of the uranium development activity, including an alternative siting analysis; and an explanation of how, if at all, the benefits of uranium development activity at the specific site are likely to justify the costs and adverse effects and an explanation of why conducting uranium

F. Plans, during active operations, transition and post-closure phases, for decommissioning, reclamation and securing of the mining, milling and tailings management facilities, including any research required to demonstrate the effectiveness of such plans.

G. Analysis of potential accidents in connection with the proposed mining, milling, tailings management, decommissioning and post-closure activity and contingency plans for responding to such accidents.

H. The extent of radiological, or nonradiological impacts resulting from mining, milling, tailings management, decommissioning and post-closure activities with particular attention to the following possible effects:

1. The contamination of local ground water and surface water by discharges from mining, milling and tailings management, and the loss of such waters as suitable water supply sources, including the extent to which applicable regulatory standards may be exceeded.

2. The reduction or loss of yields from wells due to mine dewatering, or other mining, milling or tailings management activities, and the subsequent drawdown of the surrounding water table.

3. The loss of use of local ground water and surface water sources resulting from the migration of radionuclides and other contaminants from the former

mining or tailings area after decommissioning, including the extent to which applicable regulatory standards may be exceeded.

4. The need to avoid full-time human residency within a certain radius of the property during operations due to emission of radon, other radionuclides, or dust from mining, milling and tailings management.

5. The permanent preclusion of the tailings management area after decommissioning from certain land use activities.

6. Any other effects that would impair use of the local environment during operations or after decommissioning.

I. The socioeconomic effects of the uranium development activity at the specific site and its associated regulation on the local community and the Commonwealth.

J. A description of the costs and benefits of allowing the proposed uranium development activity to proceed at the specific site, including any beneficial or adverse effects that cannot be quantified and a description of the persons or groups of persons likely to receive the benefits or bear the costs; a description of reasonable alternatives for achieving the identified benefits of the uranium development activity, including an alternative siting analysis; and an explanation of how, if at all, the benefits of uranium development activity at the specific site are likely to justify the costs and adverse effects and an explanation of why conducting uranium

development activity at that site is preferable to conducting it at alternative sites.

§ 45.1-285.7. Additional factors. – The Group is authorized to specify criteria in addition to those enumerated in paragraphs A through J of § 45.1-285.6 of this Code as it deems necessary to formulate its report to the Commission.

§ 45.1-285.8. Recommendations to the General Assembly. – Upon the receipt of the report of the Group, the Commission shall hold one or more public hearings in Pittsylvania County, Halifax County and the City of Richmond and shall thereafter report to the General Assembly with specific recommendations concerning the subject matter of the report, together with specific draft legislation implementing those recommendations, if appropriate.

§ 45.1-285.9. Study filing procedure. – Any person who intends to file a study plan with the Group pursuant to this chapter must submit, as a condition of filing such a study, the following items to the Group within thirty days of the enactment of this act or at such later time: (i) notice of intent to file a study and (ii) a schedule for completing and filing the study.

§ 45.1-285.10. Applicability of studies under this chapter to any future licensing proceedings. – In the event that a procedure for licensing uranium development activity in Pittsylvania County is established by statute or regulation, the information in any study submitted to the Group pursuant to this chapter may be used in part or in full to meet any requirement of the

licensing procedure which such information, in the judgment of any agency responsible for interpreting such requirement, is sufficient to fulfill. However, no finding or conclusion of any such study shall be binding on any agency with respect to any issue in any future licensing proceeding.

2. That an emergency exists and this act is in force from its passage.

IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF VIRGINIA
DANVILLE DIVISION

VIRGINIA URANIUM, INC.,
6 North Main Street
Chatham, VA 24531,

COLES HILL, LLC,
1040 Coles Road
Chatham, VA 24531,

BOWEN MINERALS, LLC
253 Sheva Road
Chatham, VA 24531,

VIRGINIA ENERGY
RESOURCES, INC.
675 W. Hastings Street, Suite 611
Vancouver, British Columbia
Canada V6B 1N2,

Plaintiffs,

v.

TERRY MCAULIFFE, in his official capacity as Governor of Virginia,
Patrick Henry Building
1111 East Broad Street
Richmond, VA 23219,

MAURICE JONES, in his official capacity as Virginia Secretary of Commerce and Trade,
Patrick Henry Building
1111 East Broad Street
Richmond, VA 23219,

Civil Action No.
4:15CV00031

CONRAD SPANGLER, in his official capacity as Director of the Virginia Department of Mines, Minerals and Energy, Washington Building, 8th Floor 1100 Bank Street Richmond, VA 23219,

BRADLEY C. LAMBERT, in his official capacity as Deputy Director of the Virginia Department of Mines, Minerals and Energy, 3405 Mountain Empire Road Big Stone Gap, VA 24219,

JAMES P. SKORUPA, in his official capacity as Director of the Virginia Department of Mines, Minerals and Energy's Division of Mineral Mining, 900 Natural Resources Drive, Suite 400 Charlottesville, VA 22903,

MOLLY J. WARD, in her official capacity as Virginia Secretary of Natural Resources, Patrick Henry Building 1111 East Broad Street Richmond, VA 23219,

DAVID K. PAYLOR, in his official capacity as Director of the Virginia Department of Environmental Quality, 629 East Main Street Richmond, VA 23219,

ROBERT J. WELD, in his official capacity as Regional Director of the Department of Environmental Quality's Blue Ridge Regional Office, 3019 Peters Creek Road Roanoke, VA 24019,

MICHAEL DOWD, in his official capacity as Director of the Virginia Department of Environmental Quality's Air Division, 629 East Main Street Richmond, VA 23219,

MELANIE D. DAVENPORT, in her official capacity as Director of the Virginia Department of Environmental Quality's Water Permitting Division, 629 East Main Street Richmond, VA 23219,

JUSTIN WILLIAMS, in his official capacity as Director of the Virginia Department of Environmental Quality's Division of Land Protection and Revitalization, 629 East Main Street Richmond, VA 23219,

Defendants.

COMPLAINT FOR DECLARATORY AND INJUNCTIVE RELIEF

Plaintiffs Virginia Uranium, Inc., Coles Hill, LLC, Bowen Minerals, LLC, and Virginia Energy Resources,

Inc. (collectively "Plaintiffs" or "Virginia Uranium"), by and through the undersigned attorneys, file this Complaint against the above-captioned Defendants, in their official capacities as the Governor and officers of Virginia agencies responsible for the regulation of mining activities in the Commonwealth (collectively "Defendants"). Plaintiffs seek both declaratory and injunctive relief: a declaration that the moratorium on uranium mining enacted by the Commonwealth in 1982 and enforced ever since is preempted by supreme federal law, and an injunction compelling Defendants to ignore that invalid state statute and accept and process Virginia Uranium's permit and license applications in the same manner they would an application relating to any other natural mineral resource. Plaintiffs hereby allege as follows:

INTRODUCTION

1. The United States Constitution makes federal law "the supreme Law of the Land," and anything in the "Laws of any State" that either conflicts with federal law or invades a field of plenary federal concern is preempted and denied legal force and effect. Early on in the nuclear age, Congress recognized that the acquisition, storage, and use of radioactive materials like uranium within the United States raise vital issues of national security, commerce, and welfare and thus are matters of overriding federal concern. It further recognized that the proper handling of radioactive materials raises important safety concerns that are most effectively managed on the federal level. Accordingly, it

enacted the Atomic Energy Act of 1954, which, as the Supreme Court recognized over a quarter-century ago, preempts the entire field of radiological safety concerns, except in those narrow enclaves of State authority that Congress has specifically reserved.

2. In defiance of this unequivocal exercise of supreme federal power, in 1982 Virginia enacted a "moratorium" that bans the mining of uranium in the Commonwealth. Section 45.1-283 of the Virginia Code provides:

> Notwithstanding any other provision of law, permit applications for uranium mining shall not be accepted by any agency of the Commonwealth prior to July 1, 1984, and until a program for permitting uranium mining is established by statute.

3. Virginia's ban on uranium mining was from the outset grounded in the very radiological safety concerns that Congress placed outside of the regulatory authority of the States. And in the decades since, Virginia has extended and then repeatedly refused to lift its ban, actions that were motivated by those same – preempted – radiological safety concerns.

4. Virginia's ban on uranium mining has had a devastating effect on Plaintiffs' property rights. Virginia Uranium controls 3,500 acres of property, more or less, in rural Pittsylvania County that sit atop a deposit of an estimated 119 million pounds of uranium ore. This deposit – the largest known deposit of uranium in the United States and one of the largest in the

world – would have a market value of approximate $6 billion if it could be mined and sold to America's nuclear power plants. But it is worth nothing so long as Virginia requires it to remain in the ground. And according to multiple studies, its excavation would bring unprecedented economic prosperity to the region. What is more, because nearly 90%of the uranium used in America's nuclear power plants is imported – roughly one-fifth of it from Russia – extracting the uranium in Pittsylvania County would significantly contribute to the Nation's energy independence from its hostile geopolitical rivals.

5. Virginia's ban on uranium mining is grounded on the concern that the radioactive byproduct, called "tailings," created in the process of extracting and processing uranium ore might contaminate water supplies. As numerous studies indicate, however, if processed and stored with the use of modern, reliable mining technology and in compliance with stringent federal regulations promulgated by the Nuclear Regulatory Commission ("NRC"), uranium tailings can be safely stored without significant risk to the health and safety of those who live in the area. In other words, when Virginia asked the question whether the development of the Commonwealth's uranium resources posed an unacceptable risk to health and safety, it got the answer wrong. But more importantly, it had no business asking that question to begin with. For the radiological safety concerns that are at the heart of Virginia's ban are squarely within the field of exclusive federal regulatory concern.

6. Because Virginia's ban on uranium mining is grounded squarely in the field of radiological safety concerns that Congress has deliberately withdrawn from Virginia's regulatory jurisdiction, it is in direct, irreconcilable conflict with federal law. The ban is therefore invalid under the Supremacy Clause. *Pacific Gas & Elec. Co. v. State Energy Res. Conservation & Dev. Comm'n*, 461 U.S. 190 (1983); *Entergy Nuclear Vermont Yankee, LLC v. Shumlin*, 733 F.3d 393 (2d Cir. 2013). And because this is so, Plaintiffs are entitled to a judgment declaring that ban a legal nullity and enjoining Defendants from giving it any force or effect.

JURISDICTION AND VENUE

7. This Court has subject-matter jurisdiction over Plaintiffs' preemption claim under 28 U.S.C. § 1331. Plaintiffs seek remedies under 28 U.S.C. §§ 1651, 2201, and 2202.

8. Venue is proper in this Court under 28 U.S.C. § 1391(b)(2) and W.D. VA. GEN. R. 2(a)-(b), because the Coles Hill and Bowen Minerals properties, which contain the uranium deposit that is the subject of this action, are wholly situated in Pittsylvania County, within this Division.

PARTIES

9. Plaintiff Virginia Uranium, Inc. is a Virginia corporation formed in 2007 by Walter Coles, Sr., and his neighbor Henry Bowen to develop the large uranium

deposit that lies beneath their adjoining farms. Virginia Uranium, Inc. has an exclusive right to the mineral estate in the uranium beneath the Coles Hill and Bowen family farms until 2045, pursuant to a long-term lease. Virginia Uranium, Inc. is chartered and headquartered in Virginia. Its principal place of business is 6 North Main Street, Chatham, VA 24531.

10. Plaintiff Coles Hill, LLC is a Virginia limited liability company that owns the land containing the bulk of the Coles Hill uranium deposit. Coles Hill, LLC leases the mineral estate in that part of the deposit to Plaintiff Virginia Uranium, Inc., retaining a royalty interest in the mineral estate. Coles Hill, LLC is registered and headquartered in Virginia. Its principal place of business is 1040 Coles Road, Chatham, VA 24531.

11. Plaintiff Bowen Minerals, LLC is a Virginia limited liability company which owns the land containing a portion of the Coles Hill uranium deposit. Bowen Minerals, LLC leases the mineral estate in that part of the deposit to Plaintiff Virginia Uranium, Inc., retaining a royalty interest in the mineral estate. Bowen Minerals, LLC is registered and headquartered in Virginia. Its principal place of business is 253 Sheva Road, Chatham, VA 24531.

12. Plaintiff Virginia Energy Resources, Inc., is the corporate parent and sole owner of Plaintiff Virginia Uranium, Inc. Virginia Energy Resources, Inc., is a publicly traded corporation chartered and headquartered in British Columbia, Canada. Its principal place

of business is 675 West Hastings Street, Suite 611, Vancouver, BC, Canada V6B 1N2.

13. Defendant Terry McAuliffe is the Governor of Virginia. As head of the Commonwealth's executive branch, he supervises the Secretary of Commerce and Trade and the Secretary of Natural Resources, and, through them, the Department of Mines, Minerals and Energy ("DMME") and the Department of Environmental Quality ("DEQ"). His official address is Patrick Henry Building, 1111 East Broad Street, Richmond, VA 23219. He is being sued in his official capacity.

14. Defendant Maurice Jones is Virginia's Secretary of Commerce and Trade. Subject to the direction and supervision of the Governor, he is responsible for setting the policy of the Virginia Department of Mines, Minerals, and Energy and holding its officers accountable in the conduct of their powers and duties. His official address is Patrick Henry Building, 1111 East Broad Street, Richmond, VA 23219. He is being sued in his official capacity.

15. Defendant Conrad Spangler is the Director of the Virginia Department of Mines, Minerals and Energy. As chief officer of the DMME, he exercises, delegates, or supervises all the powers of the DMME, subject to oversight by the Secretary of Commerce and Trade. His official address is Washington Building, 8th Floor, 1100 Bank Street, Richmond, VA 23219. He is being sued in his official capacity.

16. Defendant Bradley C. Lambert is a Deputy Director of the Virginia Department of Mines, Minerals and Energy. As Deputy Director, he oversees – subject to the supervision of the Director – the DMME's regulatory Divisions, including the Division of Mineral Mining, which operates the DMME's permitting process. His official address is 3405 Mountain Empire Road, Big Stone Gap, VA 24219. He is being sued in his official capacity.

17. Defendant James P. Skorupa is the Director of the DMME's Division of Mineral Mining. As Director, he exercises, delegates, or supervises the permitting and licensing power of the Division, subject to the oversight of the Director and Deputy Director. His official address is 900 Natural Resources Drive, Suite 400, Charlottesville, VA 22903. He is being sued in his official capacity.

18. Defendant Molly J. Ward is Virginia's Secretary of Natural Resources. Subject to the direction and supervision of the Governor, she is responsible for setting the policy of the Virginia Department of Environmental Quality and holding its officers accountable in the conduct of their powers and duties. Her official address is Patrick Henry Building, 1111 East Broad Street, Richmond, VA 23219. She is being sued in her official capacity.

19. Defendant David K. Paylor is the Director of the Virginia Department of Environmental Quality. As chief officer of the DEQ, he exercises, delegates, or supervises all the powers of the DEQ, subject to oversight

by the Secretary of Natural Resources. His official address is 629 East Main Street, Richmond, VA 23219. He is being sued in his official capacity.

20. Defendant Robert J. Weld is the Regional Director of the DEQ's Blue Ridge Regional Office. As Regional Director, he exercises, delegates, or supervises – subject to oversight by the DEQ's Director – the permitting and licensing powers and duties of the Division with respect to applications from Pittsylvania County, where Plaintiffs' uranium deposit is situated. His official address is 3019 Peters Creek Road, Roanoke, VA 24019. He is being sued in his official capacity.

21. Defendant Michael Dowd is the Director of the DEQ's Air Division. As Director, he exercises, delegates, or supervises the DEQ's permitting and licensing powers and duties with respect to air pollution, subject to the oversight of the DEQ's Director. His official address is 629 East Main Street, Richmond, VA 23219. He is being sued in his official capacity.

22. Defendant Melanie D. Davenport is the Director of the DEQ's Water Permitting Division. As Director, she exercises, delegates, or supervises the DEQ's permitting and licensing powers and duties with respect to water pollution, subject to the oversight of the DEQ's Director. Her official address is 629 East Main Street, Richmond, VA 23219. She is being sued in her official capacity.

23. Defendant Justin Williams is the Director of the DEQ's Division of Land Protection and Revitalization. As Director, he exercises, delegates, or supervises

the DEQ's permitting and licensing powers and duties with respect to hazardous waste, subject to the oversight of the DEQ's Director. His official address is 629 East Main Street, Richmond, VA 23219. He is being sued in his official capacity.

FACTUAL ALLEGATIONS

The Coles Hill Uranium Deposit

24. Located just to the northeast of Chatham, Virginia, the Coles Hill estate's gently sloped fields have been farmed by the Coles family since shortly after the Revolutionary War. Beneath those fields lies a deposit of approximately 119 million pounds of uranium ore – the largest natural deposit of uranium in the United States and one of the largest in the world.

25. The bulk of the Coles Hill deposit is located on land owned by Plaintiff Coles Hill, LLC. Walter Coles, Sr., has lived on the Coles Hill family estate ever since retiring from a career in the United States Foreign Service in 2003. Mr. Coles is also the Chairman, President, and CEO of Plaintiff Virginia Uranium, Inc., which possesses a long-term leasehold interest in the mineral estate in the uranium until 2045. Virginia Uranium, Inc., also leases the mineral estate in the smaller portion of the uranium deposit that lies beneath the neighboring Bowen family farm, pursuant to a similar lease with Plaintiff Bowen Minerals, LLC.

26. The economic and energy-generating potential of the Coles Hill deposit is enormous. At uranium's

current pricing, the deposit is worth about $6 billion, if it can be extracted from the ground. Once mined and processed, the Coles Hill deposit contains enough uranium to power all of the United States' domestic nuclear reactors continuously for two years. Indeed, the uranium beneath Coles Hill could produce an amount of energy equivalent to 3.6 billion barrels of oil – and with a fraction of the greenhouse gas emissions.

27. As several studies have confirmed, the process of mining the uranium beneath Coles Hill, processing it, and shipping it off-site would create hundreds of jobs and bring unprecedented economic growth to the region. For example, in 2011, Chrnura Economics & Analytics – an independent consulting firm commissioned by the Virginia Coal and Energy Commission to study the socioeconomic impacts of uranium mining in Virginia – released a study finding that uranium mining in Coles Hills, if allowed to go forward, would create 1,052 annual jobs and would generate $4.8 billion of net revenue for Virginia businesses.

28. Allowing the uranium in the Coles Hill deposit to be mined is also in the national security interest of the United States. Nuclear power plants produce nearly 20% of the nation's electricity, but nearly 90% of the uranium used in those power plants is imported. Nineteen percent of that uranium is imported from Russia. Indeed, Russian-controlled energy companies have aggressively sought to take control of uranium-mining companies throughout the world – including,

as recently reported, the large Canadian company Uranium One. Besides Russia's own uranium reserves and the extensive stakes Russian companies own in uranium operations in Kazakhstan, the Russians have now gained control of one-fifth of the uranium production capacity in the United States.

The Process of Uranium Development

29. Developing the uranium deposit beneath Coles Hill would entail three basic processes: mining, milling, and tailings management.

30. First, the raw uranium ore must be *mined* from the ground. Because of the mineralogical properties of the Coles Hill deposit, the uranium there would likely be extracted through a conventional underground mine, much like coal, titanium, and numerous other minerals, many of which are currently being mined in Virginia. Virginia has no similar ban on mining any mineral other than uranium.

31. Once the uranium ore is extracted from the ground, it needs to be *milled* or processed into useable form. Typically, an on-site uranium mill grinds the uranium ore into a sand, which is then run through either an acidic or alkaline solution to separate the pure uranium from the waste or "tailings." The uranium is then concentrated and dried into "yellowcake," which is the final product that is commercially sold and shipped offsite for enrichment.

32. Finally, the "tailings," or the rock left behind when the uranium is removed from the raw ore, must be secured in a *tailings management* facility. Though the pure uranium is separated from the tailings in the milling process, the tailings continue to have roughly 85% of their naturally occurring radioactivity. Accordingly, well-known and thoroughly tested best practices – incorporated in the federal regulations discussed below – require that the tailings be stored securely, in a way that is designed to keep them from contaminating the surrounding air, groundwater, and surface water. For example, if uranium development is allowed to go forward at Coles Hill, Virginia Uranium plans to secure the resulting tailings in safe and reliable below-grade cells, which are capped on top with synthetic and earthen materials to prevent the release of radioactive materials into the air, and lined on the bottom with multiple layers of heavy-duty materials to prevent any release into the surrounding soil or groundwater.

The Federal Government Has Plenary, Exclusive Authority over Radiological Safety Concerns Related to Uranium Milling and Tailings Management

33. The economic, environmental, and national security interests implicated by domestic uranium production make it a matter of singularly national concern. Recognizing this, Congress declared in the Atomic Energy Act ("AEA") that "[t]he development, utilization, and control of atomic energy for military

and for all other purposes are vital to the common defense and security," and the "processing and utilization" of nuclear source material like uranium "must be regulated in the *national* interest." 42 U.S.C. § 2012(a), (d) (emphasis added).

34. Like any other human activity, uranium development is not without risk. The milling and tailings management processes each raise their own discrete set of radiological health and safety concerns. Small amounts of radon and radioactive dust and fluid are created by the *milling* process and could affect the surrounding environment if not properly contained. And *tailings* must be securely stored, to prevent any radioactive materials from escaping into the air, leaking into the groundwater, and being released to surface waters.

35. All of these risks may be controlled within acceptable levels through the use of modern mining technology and compliance with the relevant NRC regulations. One independent study concluded, for example, that if the uranium beneath Coles Hill were developed according to best practices, the most-exposed resident of the area surrounding the operation would be exposed to only an additional 7.8 millirems of radiation annually. SENES CONSULTANTS LTD., ASSESSMENT OF RISK FROM URANIUM MINING IN VIRGINIA S-2 (1984), https://goo.gl/mRxxtK (last visited Aug. 5, 2015). That amounts to a tiny fraction of the 620 millirems of radiation the average American is exposed to each year, and the marginal health risks are similarly negligible.

36. Indeed, Virginia is currently home to a wide variety of nuclear activities that potentially pose a far higher radiological safety risk than uranium development at Coles Hill ever could. In Lynchburg, for example, the energy company Babcock & Wilcox produces nuclear fuel for the United States Navy. The uranium used in this fuel is highly enriched to 90% or above, orders of magnitude higher than the naturally occurring materials that would be processed and stored at Coles Hill. AREVA, a global player in nuclear energy, also has a facility in Lynchburg, where it does research and development, and maintenance on its nuclear reactors. Until recently, AREVA also manufactured commercial nuclear fuel in Lynchburg. In addition, the defense contractor Northrop Grumman operates a shipyard in Newport News, where it designs and builds nuclear-powered naval vessels. Finally, over a third of the Commonwealth's electricity is supplied by the four nuclear power plants that operate in Virginia – two in North Anna and another two in Surry. Virginia has thus long embraced the presence of nuclear facilities and activities within its borders, making the judgment that the marginal radiological safety risk they pose is far outweighed by their many benefits. And compared to many of these activities, the risk associated with developing the uranium at Coles Hill is simply negligible.

37. More importantly, Congress has concluded that the health and safety issues associated with uranium development – like the benefits – are national in scope and for the most part must be managed on the

national level. While Congress has left safety regulation of the *mining* process to the States, *it has made the radiological safety of the milling and tailings management processes exclusively matters of federal concern.*

38. Operation of a uranium mill requires licensure by the NRC, licensure that is subject to compliance with the detailed health-and-safety regulations that have been promulgated under the AEA by the NRC. *See* 10 C.F.R. § 40.31(h); 10 C.F.R. Pt. 40, App. A. For example, NRC regulations require a mill operator to employ strict "emission controls" to ensure that "all airborne effluent releases," such as "emissions from yellowcake drying and packaging operations" are "reduced to levels as low as is reasonably achievable." *Id.* Such control devices "must be operative at all times during drying and packaging operations and whenever air is exhausting from the yellowcake stack." *Id.* The performance of the emission control equipment must be checked and logged hourly. To further control the release of radioactive materials during milling, the tailings that come out of the mill "must be wetted or chemically stabilized to prevent or minimize blowing and dusting to the maximum extent reasonably achievable." *Id.* The milling operations must be managed so as to ensure that the surrounding area is not exposed to radiation that exceeds strict quantitative limits set by regulation.

39. Operation of a uranium tailings management facility similarly requires a license by the NRC, and is thus subject to its regulatory jurisdiction. 10

C.F.R. § 40.31(h). The design, construction, and operation of a tailings management facility likewise must comply with detailed and extensive regulations promulgated by the NRC. 10 C.F.R. Pt. 40, App. A. Satisfaction of the NRC's criteria is guaranteed initially by the requirement that an applicant "clearly demonstrate" in its application for a license to operate a mill and tailings management facility that it meets each of the NRC's standards. *Id.* And long-term compliance with those standards is guaranteed by the requirement that "[f]inancial surety arrangements must be established by each mill operator before the commencement of operations to assure that sufficient funds will be available to carry out the decontamination and decommissioning of the mill and site and for the reclamation of any tailings or waste disposal areas." *Id.*

40. The NRC's regulations govern, as an initial matter, *where* a tailings management facility may be constructed. Potential sites must be judged in light of the goal of "permanent isolation of tailings and associated contaminants by minimizing disturbance and dispersion by natural forces, and . . . without ongoing maintenance." *Id.* The NRC lists several features of potential sites that contribute to this goal – including "[r]emoteness from populated areas" and the "[p]otential for minimizing erosion, disturbance, and dispersion by natural forces over the long term" – and requires that the selection of the ultimate tailings-management site be based on "an optimization to the maximum extent reasonably achievable in terms of these features." *Id.* Moreover, the facility "may not be

located near a capable fault that could cause a maximum credible earthquake larger than that which the impoundment could reasonably be expected to withstand." *Id.*

41. The NRC requires that a tailings disposal facility either be placed below grade "in mines or specially excavated pits," or in an above-grade facility that is designed to "provide reasonably equivalent isolation of the tailings from natural erosional forces." *Id.* The facility must be designed to minimize erosion due to rainfall and flooding and to provide "good wind protection." *Id.* "A full self-sustaining vegetative cover must be established or rock cover employed to reduce wind and water erosion to negligible levels." *Id.* And all surfaces "must be contoured to avoid areas of concentrated surface runoff or abrupt or sharp changes in slope gradient." *Id.*

42. The NRC regulates the design and manufacture of the liner that must be placed at the bottom of the tailings storage facility "to prevent any migration of wastes out of the impoundment to the adjacent subsurface soil, ground water, or surface water." *Id.* The liner must be "[c]onstructed of materials that have appropriate chemical properties and sufficient strength and thickness," it must be placed on a "foundation or base capable of providing support to the liner and resistance to pressure gradients above and below the liner to prevent failure of the liner due to settlement, compression, or uplift," and it must "cover all surrounding earth likely to be in contact with the wastes or leachate." *Id.* To ensure that the liner is functioning

effectively, the operator must implement a groundwater "detection monitoring program" designed "to detect leakage of hazardous constituents from the disposal area." *Id.*

43. The NRC also regulates the design and construction of the cap or cover that is placed over the tailings storage cell once operations are complete. The cover must be made out of earth or an approved alternative, and it must be engineered so as to provide "reasonable assurance" that it will control the release of radon gas and other radioactive materials within strict, specified limits "for 1,000 years, to the extent reasonably achievable." *Id.* The operator of the facility must "verify through appropriate testing and analysis that the design and construction of the final radon barrier is effective" as soon as possible after the cover is in place; and after operations are complete, "annual site inspections must be conducted by the government agency [(ordinarily, the Department of Energy)] responsible for long-term care of the disposal site to confirm its integrity and to determine the need, if any, for maintenance and/or monitoring." *Id.*

44. The NRC has thus subjected the design, construction, operation, and long-term maintenance of a uranium tailings management facility to strict, extensive, and detailed regulation. And the NRC has made the judgment that compliance with these regulatory requirements will provide adequate protection against the health and safety risks associated with tailings management.

45. Accordingly, pursuant to the AEA's delegation of regulatory authority, the NRC has promulgated regulations that strike a certain balance. On the one hand, in pursuit of health, safety, and environmental concerns, the NRC has put in place strict standards that anyone who wishes to operate a uranium milling or tailings management facility must meet. On the other hand, recognizing that development of domestic uranium deposits carries substantial *benefits* – in terms of national security, economic growth, and the production of clean, independent energy – the NRC has determined that uranium *can* be milled, and its tailings *can* be stored, if its regulatory requirements are satisfied.

46. Whether the balance that the NRC's regulations strike between these competing values is the optimal one is a matter for the federal government to decide, not Virginia.

47. Congress in the AEA, as amended, has provided a narrow route for States to take over limited aspects of the NRC's regulatory authority. Under 42 U.S.C. § 2021, the NRC is authorized to "enter into agreements with the Governor of any State" to transfer to that State its regulatory jurisdiction over uranium milling and tailings management. *Id.* § 2021(b). The agreement process is arduous. Before entering into an agreement with a State, the NRC must ensure that the State program is "compatible" with the federal regulations that would otherwise apply and is "adequate to protect the public health and safety with respect to the materials covered by the . . . agreement." *Id.* § 2021(d)(2).

It typically takes the NRC three to five years to verify that a State program provides adequate levels of protection.

48. Once such an agreement is finalized – and only then – "the State shall have authority to regulate the materials covered by the agreement for the protection of the public health and safety from radiation hazards." *Id.* § 2021(b). *Unless and until* such an agreement is finalized, a State can regulate uranium development only "for purposes *other than* protection against radiation hazards." *Id.* § 2021(k) (emphasis added).

49. While Virginia has entered into a limited agreement with the NRC, that agreement *explicitly does not cover* uranium milling or tailings management.

50. Because Virginia's agreement does not cover uranium milling and tailings management, the clear terms of the AEA confine it to regulating uranium development "for purposes other than protection against radiation hazards" related to those activities. *Id.*

51. Congress has completely occupied the field of radiological safety concerns, except in those limited areas expressly carved out for the States. States may regulate mining safety, but they cannot address radiological safety concerns related to uranium milling and tailings management unless they reach an agreement with the NRC transferring to them jurisdiction over those activities. Subject to those narrow exceptions, any regulation of uranium development that is

grounded in radiological safety concerns falls squarely within the exclusively federal field.

Virginia's Moratorium on Uranium Mining Injures Plaintiffs by Unlawfully Prohibiting Them from Obtaining the Permits They Need To Mine Their Uranium

52. In order to legally mine any mineral in Virginia, one needs to obtain several permits from the Commonwealth's agencies.

53. First, Virginia by law requires anyone who wishes to "engage in any mining operation in Virginia" to first obtain a mining permit from the DMME. VA. CODE § 45.1-181. An application for such a permit must include a variety of information about the mineral to be extracted, the land where the mining operations would occur, and the identity of the owners of the land and the operator of the mine, and it must be accompanied by an application fee and a plan of operation that includes a proposal for reclaiming the land after operations have concluded.

54. Second, Virginia's Mine Safety Act requires anyone who "engage[s] in the operation of any mineral mine within this Commonwealth" to obtain – also from the DMME – a Mine Safety permit. *Id.* § 45.1-161.292:30. The application for a Mine Safety permit must identify the mine operator, any agent in charge of the business operation of the mine, and each independent contractor working at the mine; and it

must include information "[t]hat is relevant to an assessment of the safety and health risks likely to be associated with the operation of the mine." *Id.* § 45.1-161.292:32.

55. Third, Virginia regulations require anyone seeking to construct a major new stationary source of certain air pollutants to obtain a Prevention of Significant Deterioration permit from the DEQ. 9 VA. ADMIN. CODE §§ 5-50-10 through -420; 5-60-10 through -370.

56. Fourth, by state regulation an entity planning to construct a major new source of certain hazardous air pollutants – including radionuclides like radon – must first obtain a Major Source of Hazardous Air Pollutants, or "Article 7," permit, also from the DEQ. *Id.* § 5-80-1420.

57. Fifth, state law implementing the federal Clean Water Act requires an individual to obtain a Virginia Pollutant Discharge Elimination System permit from the DEQ before discharging effluents into state waters. VA. CODE § 62.1-44.5; 9 VA. ADMIN. CODE § 25-31-10 through -940.

58. Sixth, Virginia's Hazardous Waste Management Act requires any person storing, treating, or disposing of hazardous waste to first obtain a Hazardous Waste Management Facility permit from the DEQ. VA. CODE § 10.1-1426.

59. Until it applies for and receives each of these permits and licenses, Virginia Uranium is legally prohibited from mining the uranium in the Coles Hill

deposit. But Defendants, collectively, will not even *accept* an application by Virginia Uranium for any one of these permits, because state law, since 1982, has provided:

> Notwithstanding any other provision of law, permit applications for uranium mining shall not be accepted by any agency of the Commonwealth prior to July 1, 1984, and until a program for permitting uranium mining is established by statute.

VA. CODE § 45.1-283.

Virginia's Moratorium Is Grounded in Radiological Safety Concerns Related to Tailings Management

60. The law recognizes that States can oppose development of nuclear-related facilities and activities out of a variety of concerns, ranging from economic considerations, to environmental impacts, to health and safety issues. But the law also recognizes that this reality – that States rarely act with a singular justification or to promote a singular purpose – cannot be allowed to frustrate judicial inquiry into whether the State's policy has entered a field of exclusive federal jurisdiction. "If that were the rule, legislatures could nullify nearly all unwanted federal legislation by simply publishing a legislative committee report articulating some state interest or policy – other than frustration of the federal objective – that would be tangentially furthered by the proposed state law." *Entergy*

Nuclear Vermont Yankee, LLC v. Shumlin, 733 F.3d 393, 416 (2d Cir. 2013) (internal quotation marks omitted). Accordingly, where, as here, a state prohibition on uranium development is grounded in radiological safety concerns – that is, where these preempted concerns are a motivating or predominant justification for the State's action – then that action itself falls within the field occupied by federal law and is invalid.

61. Virginia's bar on accepting any "permit applications for uranium mining," VA. CODE § 45.1-283, is grounded squarely within the field of radiological safety concerns that has been completely occupied by federal law. The Commonwealth was motivated by these impermissible reasons when it imposed and then extended the uranium ban in the period from 1981 through 1986, and it was motivated by the same preempted considerations when it reconsidered but ultimately declined to lift the ban in the period from 2008 to 2013.

62. Virginia first moved to regulate uranium in 1981. Marline Uranium Corporation ("Marline") discovered the Coles Hill deposit in 1978, and throughout the late '70s Marline acquired leases of the mineral rights to the deposit and took steps to begin developing it. In reaction to Marline's discovery and apparent intent to mine the uranium beneath Coles Hill, the General Assembly in the 1981 session passed Resolution 324, calling on the Coal and Energy Commission ("CEC") – a legislative-branch commission comprised of members of the Assembly and citizen representatives – to create a "Uranium Subcommittee" tasked

with "evaluat[ing] the environmental effects of uranium exploration, mining and milling . . . and any possible detriments to the health, safety, and welfare of Virginia citizens which may result from uranium exploration, mining or milling." Act of Feb. 20, 1981, H.J. Res. 324, 1981 Va. Acts 1404, attached as Exhibit 1. The preamble to Resolution 324 made clear that the Assembly was acting out of concern for "the environmental effects and the possible hazards to the health, safety, and welfare of citizens living in proximity to uranium operations." *Id.* And the subsequent course of the public debate over uranium mining in the early 1980s confirmed that the Commonwealth's primary motivation lay squarely within the field of concerns that Congress has marked off as exclusively federal.

63. In 1982, after an initial round of study, the Uranium Subcommittee recommended that Virginia take the initial step of allowing exploration for uranium ore within the Commonwealth. Based on this recommendation, the Assembly adopted Senate Bill 179, which allowed *exploration* for uranium but simultaneously imposed a moratorium on *mining* uranium until July 1, 1983, to give the Commonwealth an opportunity for further study. In the bill's "declaration of policy," the Assembly reiterated its concern for "the health, safety, and general welfare of the citizens of this Commonwealth," and concluded that "the adoption of additional statutes during the 1983 Session of the General Assembly may be necessary in order to assure that any uranium mining and milling which may occur in the Commonwealth will not adversely affect

the environment or the public health and safety." Act of Apr. 7, 1982, ch. 269, 1982 Va. Acts 426, 427, attached as Exhibit 2.

64. In 1983, after further study by the subcommittee, the Assembly extended the moratorium through 1984 at the earliest "and until a program for permitting uranium mining is established by statute" – the current form of the moratorium. Act of Feb. 24, 1983, ch. 3, 1983 Va. Acts 3, attached as Exhibit 3. The Assembly also simultaneously created a Uranium Administrative Group ("UAG") to conduct a more in-depth "evaluation of the costs and benefits" of "uranium mining and milling activity in the Commonwealth." *Id.*

65. The UAG proceeded to retain a consulting firm, SENES, to conduct a thorough and technical study of the risks and benefits of uranium mining in Virginia. The SENES study concluded that the benefits of mining uranium in Virginia far outweighed the risks. After the SENES firm reported its conclusions, the UAG recommended to the CEC that further research be undertaken, and in January 1984 the CEC created yet another entity, the Uranium Task Force ("UTF"), to undertake this additional research. After evaluating the SENES study, undertaking further research, and holding a series of public meetings, the UTF issued a report in October of 1984 recommending that the Assembly lift the moratorium and allow uranium mining, subject to robust regulation. *See* REPORT OF THE URANIUM TASK FORCE 2 (Oct. 1, 1984), https://goo.gl/Gt90pw (last visited Aug. 5, 2015).

66. In the beginning of 1985, the UAG issued a final report to the CEC, based on the SENES study and the UTF report. REPORT OF THE VIRGINIA COAL & ENERGY COMM'N TO THE GOVERNOR AND THE GENERAL ASSEMB. OF VIRGINIA App. B, S. Doc. No. 15 (1985), http://goo.gl/b5L1vn (last visited Aug. 5, 2015). The UAG's final report again recommended that the moratorium be lifted. The UAG report was supported by 16 of the 18 members of the group. A dissent to the majority's recommendation was filed by Elizabeth H. Haskell.

67. Ms. Haskell's dissent was based almost exclusively on the potential threats to safety posed by tailings management. The dissent begins by citing "[t]he risks of cancer deaths and illnesses from radiation released from the uranium ore and waste products called tailings." *Id.* In particular, Ms. Haskell worried that because Virginia has a "climate where rainfall exceeds evaporation," the risk that water that "is discharged from the site and filters through tailings" might be transmitted "to people through streams and the groundwater is a major issue." *Id.*

68. This point that Virginia's "net precipitation climate" raises special concerns about the radiological safety of uranium development has remained one of the main objections put forward by opponents of lifting the ban ever since Ms. Haskell first raised it in 1985. Because it is specifically based on the concern that Virginia's wet climate could make it difficult to contain the radioactivity of the uranium *tailings*, it is squarely grounded in the exclusively *federal* field of concern.

69. Ms. Haskell next argued that the report issued by SENES was flawed for several reasons; again, the majority of those reasons were firmly grounded in safety concerns related to tailings management. The dissent asserted that the SENES report erroneously assumed "that there will be no leaching of radioactive wastes or heavy metals to groundwaters" and "no long-term deterioration or collapse of the 100 foot high tailings pile by flood, earthquake, erosion or design failure for the thousands of years the tailings are radioactive." Ms. Haskell thought the possibility of such leaching or deterioration more likely "in the net precipitation climate of Pittsylvania County, where groundwater reaches close to the surface and where above-ground tailings disposal will be required exposing the waste to weather and collapse." *Id.* Ms. Haskell also argued that SENES did not take into account several additional health risks, including the "[e]ffects of a catastrophic event such as a flood, major accident or design failure that could collapse the tailings pile." *Id.* And she claimed that the SENES cost-benefit analysis failed to appreciate that the "risks and costs" of uranium development will "occur for many years after closure of the mine and mill," because "[a]fter closure, the Commonwealth or the Federal Government will assume permanent ownership of the tailings pile," exposing it to the risk of "catastrophic events" like "a flood or earthquake" that would require "a very expensive tailings remedy." *Id.* Taken together, these "unknowns and . . . identified risks to the public and the environment . . . call for retaining the moratorium on mining and milling." *Id.*

70. Another member of the UAG – Frank E. Wallwork – also filed a brief dissent, making many of the same points as Ms. Haskell. In summarizing his "reasons for rejecting the conclusion of the [UTF]," his primary objection was this one: "The technology to prevent seepage of radionuclides, heavy metals, or chemicals from the tailings area into the ground water has not been developed." *Id.*

71. The CEC forwarded the UAG's report, along with the dissents, to the Governor and General Assembly, including its own recommendation that draft legislation lifting the moratorium at least be considered. The General Assembly decided not to follow the UAG's recommendation, and in 1986, the bill that had been filed seeking to end the moratorium was withdrawn.

72. In short, *both* of the advisory bodies created and tasked by the Assembly with studying uranium development *recommended* that the moratorium on uranium mining be lifted; the principal objection to those recommendations came from Ms. Haskell's dissent, which focused almost exclusively on the radiological safety concerns raised by tailings management. The Assembly adopted Ms. Haskell's recommendation rather than the majority's for the reasons she expressed.

73. In 1986, Marline began to wind up its plans to develop the Coles Hill deposit, ultimately abandoning the project and its leasehold interests in the uranium in 1990.

74. From 2008 to 2013, Virginia again considered whether to allow the development of the Coles Hill uranium deposit. Once again, the opponents to uranium development succeeded in keeping the ban in place. And once again, Virginia's refusal to allow uranium mining was squarely – and impermissibly – grounded in radiological safety concerns, primarily related to tailings management.

75. In 2007, the Coles and Bowen families established Plaintiff Virginia Uranium, Inc., and conveyed to it leasehold interests in the mineral estate beneath their land. That same year, Virginia Uranium applied for and received a permit from the DMME to engage in "exploration activity" to gain further information about the nature and extent of the Coles Hill deposit. Virginia Uranium also began to urge lawmakers to reconsider the ban on uranium mining. Plaintiffs pursued relief through the political process, attempting to persuade the Commonwealth to lift its ban on uranium rather than forcing it to defend the ban in court.

76. In 2008, the General Assembly formally began reconsideration of the ban on uranium development. Later that year, the Coal and Energy Commission re-created the Uranium Subcommittee, tasking it with examining the issue in depth.

77. In August 2009, the Subcommittee commissioned two studies to assess anew the costs and benefits of uranium development in Virginia. First, the National Academies of Science ("NAS") was asked to conduct a comprehensive, scientific study of health and

safety risks posed by uranium development. Second, the Chmura consulting firm was asked to study the likely socioeconomic impacts on the region.

78. The NAS reported its conclusions in 2011. The NAS Report is a comprehensive, 300-page assessment of every conceivable health and safety risk associated with uranium development. While the NAS study analyzed a wide variety of safety risks, the dominant concern emphasized by the study related to tailings management. For example, the NAS concluded that "[p]rotracted exposure to radon decay products generally represents the *greatest radiation-related health risk* from uranium-related mining and processing operations," and that "[i]n many cases, *tailings represent the predominant source* of radon emission . . . from a mining site." NATIONAL RESEARCH COUNCIL, URANIUM MINING IN VIRGINIA 123, 143 (2011), http://goo.gl/cv0cg (last visited Aug. 5, 2015) (emphases added). And "[a]long with exposure to radon . . . , inadequate containment of uranium tailings most likely represents the highest potential source of radiation exposure, related to uranium mining activities, to the general public." *Id.* at 128.

79. Throughout the 2009-11 period, opposition to lifting the ban centered on radiological safety issues. Some opponents released their own studies of the likely effects of uranium development. For example, in February 2011, the City of Virginia Beach emerged as a major opponent of lifting the ban, even though it is located hundreds of miles from the Coles Hill property.

The City released an extensive study it had commissioned on the "Potential Impacts of Uranium Mining in Virginia on Drinking Water Sources." This study "focused on the potential of a catastrophic failure of a uranium-tailings containment structure and subsequent discharge of uranium tailings into the Banister or Roanoke Rivers." MICHAEL BAKER, INT'L, A PRELIMINARY ASSESSMENT OF POTENTIAL IMPACTS OF URANIUM MINING IN VIRGINIA ON DRINKING WATER SOURCES ES-1 (2011), http://goo.gl/efjNFB (last visited Aug. 5, 2015). The study concluded that such a failure "could significantly increase radioactivity concentrations in the river/reservoir system . . . for an extended period of time," affecting all of the residents whose drinking water is drawn from those sources. *Id.* at ES-7. This 300-page study is focused exclusively on the radiological safety risks posed by tailings management.

80. The Virginia Beach study was repeatedly cited by the individuals and interest groups that opposed lifting the ban during this period, giving it an extraordinarily wide influence on the public debate.

81. Groups opposed to uranium development also produced a mass of non-technical literature. The resolutions, flyers, internet posts, newspaper op-eds, brochures, videos, position papers, and comments at public forums demonstrate that those who opposed uranium development in Virginia focused almost exclusively on tailings-related safety concerns.

82. A number of cities and local governments or authorities passed formal resolutions opposing the

effort to lift the ban; the bulk of these were trained on concerns about tailings management. The City of Chesapeake, for example, urged that "the mining and milling of the Uranium Reserve poses a risk of environmental contamination in the event the containment structures for the tailings fail due to structural defect, substantial flooding or other cause." City of Chesapeake, *Resolution Requesting that the Virginia General Assembly Maintain the Current Moratorium on Uranium Mining Until the Completion of Scientific Studies Evaluating the Risk of Contamination of Drinking Water Supplies and Harm to the Public Health* (June 1, 2011), http://goo.gl/PB67nI (last visited Aug. 5, 2015). The City of Norfolk adopted a similar resolution, opining that "it is absolutely clear, based upon the National Academy of Sciences and other studies, that it cannot be demonstrated to a reasonable degree of certainty that there would be no significant release of radioactive sediments downstream of the Coles Hill site under any circumstances." City of Norfolk, *A Resolution Stating the City of Norfolk's Opposition to the Mining of Uranium in the Commonwealth of Virginia* (Jul. 24, 2012), http://goo.gl/EG9hHb (last visited Aug. 5, 2015).

83. The less formal statements of the private groups that coalesced in opposition to lifting the ban are to similar effect. For example, one umbrella group of mining opponents, Keep the Ban, published a flyer stating that "[u]ranium mining and processing produces waste materials known as 'tailings' commonly found to include radium, thorium and various harmful

heavy metals linked to severe health effects. The Coles Hill site would generate at least 28 million tons of mine and mill waste." It urged readers to tear-off and mail in an attached petition asking state officials "to maintain the ban in order to preserve our drinking water" from the "radioactive and toxic waste [that] would be left in Virginia soils for centuries." *See* Brochure, *Keep the Ban on Uranium Mining in Virginia*, KEEP THE BAN, http://goo.gl/Q3Lm3y (last visited Aug. 5, 2015).

84. The Southern Environmental Law Center ("SELC") was another leading opponent of lifting the ban. Like Keep the Ban, the SELC's dominant concern related to tailings management. For example, a position paper published on SELC's website cites the NAS study as validating its concerns related to "risks to water quality from radioactive tailings," and it cites the Virginia Beach study as demonstrating "that a catastrophic failure of a uranium waste containment structure at the site could contaminate the city's drinking water for as long as two years." *Uranium Mining – A Risky Experiment*, SOUTHERN ENVTL. LAW CTR., https://goo.gl/BksD2J (last visited Aug. 5, 2015). As Cale Jaffe, the senior SELC attorney on the Virginia Uranium project, put it in late 2012, milling and tailings management was "the driving issue" in the public discourse: "You're dealing with a significant amount of mill tailings waste that retains about 85 percent of its radioactivity. . . . Managing that for the long term is what's driving the debate." Mary Beth

Jackson, *Milling 'Driving Issue' of Uranium Controversy*, THE DANVILLE REGISTER & BEE, Dec. 11, 2012, http://goo.gl/iaqGZO (last visited Aug. 5, 2015).

85. A third major opposition group, the Virginia chapter of the Sierra Club, was motivated by similar concerns. For example, a flyer sent to local residents at the end of 2010 warned that "[u]ranium mining is a dirty and dangerous business. It creates toxic waste that can leak into our drinking water causing kidney failure and birth defects." Exhibit 4. And a statement on their website warns that "[i]f the ban is lifted and mining commences, left behind will be up to 29 million tons of waste containing radioactive material, which has been linked to kidney disease, cancers, leukemia, and birth defects. Potential water contamination with these toxins could cripple downstream communities and the industries that rely on clean water." Eileen Levandoski, *HOT WATER Film Reveals Burning Truth About Uranium Mining*, VIRGINIA CHAPTER SIERRA CLUB, Nov. 6, 2013, http://goo.gl/3Ms2Lw (last visited Aug. 5, 2015).

86. The arguments advanced and steps taken by the *supporters* of uranium development provide further evidence that the dispositive issue in the public debate was the concern over the radiological safety risks posed by tailings.

87. To aid the Assembly in considering whether to lift the moratorium, Governor McDonnell in January 2012 created a Uranium Working Group ("UWG") to consider the extant research and issue a report

summarizing for the Assembly the major scientific concerns and the regulatory steps that would need to be taken should the moratorium be lifted. The UWG was comprised of leading staff from the three Virginia agencies concerned with health, safety, and environmental quality: the DMME, the DEQ, and the Virginia Department of Health. The UWG issued its report in November 2012, which concluded that "[i]f the General Assembly decides to lift the . . . moratorium, the need for a comprehensive program to regulate uranium mining . . . *can be met.*" URANIUM WORKING GROUP, 2012 REPORT xiii (2012), http://goo.gl/qrjOiz (last visited Aug. 5, 2015) (emphasis added). That report went on to map out the steps Virginia's Assembly and agencies would need to take to effectively regulate uranium development. In 2013, a bill was introduced into both the Senate and the House that would have lifted the moratorium and allowed uranium development, subject to stringent regulation based on the recommendations of the NAS and UWG studies. Notably, this legislation provided that "[a] mining permit application shall not be accepted" unless it specified that "all by-product materials, including tailings, will be disposed of below grade at the site where such disposal is to occur." S. 1353, § 45.1-285.18(G)(ii) (2013 Sess.), attached as Exhibit 5.

88. This requirement of below-grade tailings disposal was based on the NAS study, which highlighted this disposal technique as limiting the risk that groundwater and surface water could be contaminated by the tailings. The requirement was touted by the Senate

sponsor of the legislation, John C. Watkins, as "directly address[ing]" the "primary environmental concern raised [by opponents]" that the "mill tailings . . . [might] taint drinking waters downstream." John C. Watkins, *Uranium Can Be Mined Safely in Virginia*, RICHMOND TIMES-DISPATCH, Jan. 21, 2013, http://goo.gl/nUcecQ (last visited Aug. 5, 2015).

89. Ultimately, the argument that the tailings left over from uranium mining would expose millions of area residents to radioactive drinking water proved dispositive. At the end of January 2013, Senator Watkins withdrew his bill.

90. There is no doubt about what motivated the Virginia State legislators who opposed lifting the ban, for many of them publicly explained the reason for their opposition: concerns related to uranium tailings. Delegate Danny Marshall, for example, explained his opposition in 2012 by pointing to the "'tailings' left behind with radioactivity that could take thousands of years to dissipate. . . . Heavy rains and high winds could spread those radioactive materials over long distances, perhaps to other states. . . ." *Uranium Likely to be Hot Topic*, THE MARTINSVILLE BULLETIN, Dec. 19, 2012, http://goo.gl/UmwHLe (last visited Aug. 5, 2015). Delegate Kenneth Plum justified his stance by pointing to the Virginia Beach study's "finding that a catastrophic failure of a uranium waste containment structure at the site could contaminate the city's drinking water for as long as two years." Kenneth R. Plum, *Uranium Mining in Virginia*, THE CONNECTION, Jul. 10, 2012, http://goo.gl/j3emmq (last visited Aug. 5,

2015). Senator Barbara Favola similarly noted that "I simply can't believe [storing radioactive material underground is safe], because it's going to be stored underground for a very long time . . . And you're talking about radio-active material getting into people's groundwater." Michael Pope, *Uranium Debate Heats Up As Virginia Assembly Session Begins*, WAMU 88.5, Jan. 7, 2013, http://goo.gl/IOOaB0 (last visited Aug. 5, 2015). And Delegate Don Merricks, one of the most vocal opponents of lifting the ban, repeatedly emphasized tailings-related concerns, noting explicitly at one point that "he is not so concerned about the mining as he is about the tailings – the radioactive debris that remains after the uranium has been extracted." Alix Hines, *Is Uranium Mine Scaring People from Southside?*, CAPITAL NEWS SERVICE, Jan. 17, 2013, http://goo.gl/J7QFb8 (last visited Aug. 5, 2015).

91. The November 2013 election of Defendant Governor McAuliffe, who ultimately became resolutely opposed to uranium development, dashed any hopes of reintroducing a bill lifting the moratorium in the next session. The reasons cited by Governor McAuliffe in articulating his opposition to uranium development provide final, conclusive confirmation that the Commonwealth's refusal to lift the ban was squarely grounded in radiological safety concerns related to tailings.

92. Then-candidate McAuliffe came out against uranium mining as early as March 2013, noting that he "would need to be certain that mining uranium can

be done safely and cleaned up completely before a moratorium is lifted. . . . So far I have not seen that." *Cuccinelli, McAuliffe Weigh in on Uranium Mining*, THE VIRGINIA PILOT, Mar. 19, 2013, attached as Exhibit 6.

93. In a May meeting with mining opponents, McAuliffe stated that uranium mining was "a horrible idea." *McAuliffe: No to Uranium Mining*, MARTINSVILLE BULLETIN, May 22, 2013, http://204.12.9.147/article.cfm?ID=37752 (last visited Aug. 5, 2015). His campaign noted that his opposition was based on "concerns that water sources could be threatened by mining or natural events and that mining and milling couldn't be cleaned up completely" – concerns that echo the Virginia Beach study.

94. Shortly after the election, Governor McAuliffe stated unequivocally that he would veto any attempt to lift the ban. The reason he gave for the veto threat – "I'm afraid it would get into the drinking water" – confirms beyond doubt that the motivating cause in Virginia's continued refusal to permit uranium mining was the safety concerns related to tailings management. Jeff E. Schapiro, *McAuliffe Looks to Bury Uranium Issue*, RICHMOND TIMES-DISPATCH, Nov. 13, 2013, http://goo.gl/DgGEPb (last visited Aug. 5, 2015).

95. And in a recent speech to state businessmen, Governor McAuliffe indicated that his position had not changed. "The risk is too high. Show me some science that says our water will absolutely be protected, and

I'll consider it." Travis Fain, *McAuliffe on Bills, Campaign Season, Cuba, Uranium, and Clinton*, DAILY PRESS, Mar. 17, 2015, http://goo.gl/VqM7m5 (last visited Aug. 5, 2015).

96. This mass of evidence shows that both in the 1980s and in the period from 2008-2013, Virginia's decision to impose, extend, and retain an outright ban on any uranium development in the Commonwealth was almost exclusively based upon radiological safety concerns related to tailings management. Were it not for those concerns, the moratorium would have been lifted.

97. The true design and function of Virginia's ban on uranium mining, then, is to act as an absolute bar on the construction of a tailings management facility in the Commonwealth, even if that facility is designed, made, and operated in a way that meets or even exceeds the stringent regulatory requirements promulgated by the NRC. In this way, Virginia's ban on uranium mining frustrates – and indeed, is *impossible to square with* – the NRC's judgment that uranium tailings can be managed and stored safely, if the appropriate precautions are taken.

The Uranium Mining Ban's Effects on Plaintiffs' Property Rights

98. Because of Virginia's ban on uranium mining, Defendants are barred by law from even accepting

Virginia Uranium's application for the permits, described in paragraphs 53-58 above, which are required to legally mine the uranium in the Coles Hill deposit.

99. Plaintiffs' uranium deposit – worth approximately $6 billion if mined – is plainly worth *nothing* if it can never be extracted from below the ground. By preventing Plaintiffs from legally mining their uranium, Virginia's ban has thus dramatically injured Plaintiffs by draining their property rights of essentially all value. Indeed, Plaintiffs are injured each day Defendants refuse to process, or even to *accept*, applications for mining permits to develop and make beneficial use of the uranium beneath their land.

100. Virginia Uranium has already expended substantial sums in pursuing its plans to mine uranium at Coles Hill. For example, it has spent over $800,000 on the process of applying for a uranium exploration permit from the DMME and conducting exploratory drilling of the Coles Hill deposit pursuant to that permit. It has spent nearly $2 million on advance technical research of its own and another $2 million on commissioning third-party studies to develop the technical details, analyze the safety and environmental risks, and assess the economic costs and benefits of developing the uranium beneath Coles Hill. It has spent about $1.2 million on preliminary environmental sampling of the ground and surface water surrounding the site – the bulk of which went above and beyond the sampling required by Virginia's permitting process. And it has invested over $10 million in setting up and maintaining office space and hiring employees. All of

these up-front investment costs are wholly deprived of value unless Virginia's ban on uranium mining is lifted.

101. While – as with any major development project – Virginia Uranium will need to meet additional regulatory milestones, such as obtaining permits from the NRC, before beginning mining operations at Coles Hill, there is a strong likelihood that those additional milestones can be met. Indeed, the substantial investments Plaintiffs have already made in the Coles Hill project – even in the face of Virginia's blanket ban – demonstrate that they intend to take whatever steps the law requires to see the project through. Virginia's ban is the only obstacle that amounts to *an absolute bar* to mining uranium. That ban deprives Plaintiffs of even the *opportunity* of developing the valuable deposit of uranium beneath their land.

CLAIM FOR RELIEF

COUNT I

Federal Preemption of Virginia's Moratorium on Uranium Mining

102. Plaintiffs incorporate by reference the allegations of the preceding paragraphs.

103. The Constitution makes federal law "the supreme Law of the Land," U.S. CONST. art. VI, cl. 2, and any state law that is contrary to federal law is preempted and thus invalid under the Supremacy Clause.

104. State law is preempted by federal law either if it falls within a field that is completely occupied by federal law or if it directly conflicts with a provision of federal law. State law directly conflicts with federal law either if it is physically impossible to comply with both federal and state law or if state law stands as an obstacle to the full accomplishment and execution of the purposes and objectives of federal law.

105. By passing the AEA, Congress has preempted the field of radiological safety concerns. The safety of uranium milling and tailings management is a matter of exclusively federal regulatory jurisdiction, and any state regulation of uranium development that is grounded in radiological safety concerns related to the areas of *federal* regulation fall within the field preempted by the AEA.

106. Nonetheless, Virginia has since 1982 imposed and maintained a flat ban on uranium mining. That ban is thoroughly grounded in radiological safety concerns primarily related to the management and storage of uranium tailings. Accordingly, it falls within the field preempted by the AEA and is invalid under the Supremacy Clause.

107. Congress enacted the AEA to encourage the development of nuclear resources and generation of atomic energy in the national interest, but subject to safety standards established by the NRC. The AEA, and the regulations promulgated by the NRC pursuant to it, thus strike a particular balance between the objectives of promoting uranium development and

ensuring health, safety, and environmental protection. That balance contemplates that uranium development should not be barred on the basis of safety concerns, including those related to uranium milling and tailings management, so long as the federal regulatory standards governing those activities are satisfied.

108. Defendants' enforcement of Virginia's ban on uranium mining, based on a directly contrary weighing of the safety risks, upsets the balance struck by the AEA and thus poses an obstacle to the full implementation and execution of the purposes and objectives of federal law. Accordingly, the ban is preempted by federal law and invalid under the Supremacy Clause.

109. Pursuant to the authority Congress delegated it in the AEA, the NRC has promulgated extensive regulations governing radiological safety, including specifically regulations governing tailings management. Those regulations allow uranium tailings to be safely managed and stored, so long as federal standards are met.

110. Virginia's uranium ban, however, flat-out prohibits the safe management of uranium tailings, by prohibiting the mining of uranium in the first place. Moreover, because Virginia enacted and maintains its ban on uranium mining because of radiological safety concerns primarily related to tailings management, that state law is intended and specifically designed to function as a ban on storing uranium tailings within

the state. It is physically impossible to develop uranium in Virginia and simultaneously comply with both federal law, which regulates but allows the storing of uranium tailings, and Virginia's law, which effectively bans storing uranium tailings. Accordingly, Virginia's ban is preempted by federal law and invalid under the Supremacy Clause.

PRAYER FOR RELIEF

111. WHEREFORE, Plaintiffs pray for an order and judgment:

a. Declaring that Virginia's ban on uranium mining, VA. CODE § 45.1-283, is preempted by federal law, invalid under the Supremacy Clause, and devoid of any legal force or effect;

b. Enjoining Defendants and their employees and agents from complying with Virginia's ban on uranium mining;

c. Ordering Defendants and their employees and agents, respectively, to accept and process Plaintiffs' applications for the following permits and licenses notwithstanding Virginia's ban on uranium mining and in the same manner as they would if those permits and licenses pertained to any other mineral that may be legally mined:

(i) A Mining permit from the DMME,

(ii) A Mine Safety permit from the DMME,

(iii) A Prevention of Significant Deterioration permit from the DEQ,

(iv) A Major Source of Hazardous Air Pollutants permit from the DEQ,

(v) A Virginia Pollutant Discharge Elimination System permit from the DEQ, and

(vi) A Hazardous Waste Management Facility permit from the DEQ;

d. Awarding Plaintiffs their reasonable costs, including attorneys' fees, incurred in bringing this action; and

e. Granting such other and further relief as this Court deems just and proper.

Dated: August 5, 2015

Respectfully submitted,

/s/ Michael Weitzner

Michael Weitzner,
Bar No. 45049
Attorney of Record
Charles J. Cooper*
John D. Ohlendorf*
Cooper & Kirk, PLLC
1523 New Hampshire
Avenue, N.W.
Washington, D.C. 20036
(202) 220-9600
(202) 220-9601 (fax)
mweitzner@cooperkirk.com

**Pro hac vice* application forthcoming

Attorneys for Plaintiffs

APPENDIX

Public Statements by Members of Virginia's General Assembly Between 2009 and 2014 Opposing Lifting the Ban on Uranium Mining.

Del. Leslie R. Adams

Adams opposes lifting the state's ban on uranium mining. Virginia Uranium has been lobbying for an end to the ban so that it could mine a 119-million-pound uranium deposit in Coles Hill in Pittsylvania County. . . . Adams said he is against lifting the ban because there is not a consensus that uranium mining can be done here safely.

Adams: Create the Climate for Jobs, MARTINSVILLE BULLETIN, Oct. 31, 2013, attached to Ohlendorf Decl. as Exhibit 51.

The two Republicans vying for their party's nomination for the 16th District House of Delegates seat in the June 11 primary have different perspectives on how they can help rejuvenate Southside's economy. . . . Adams and Bowman both said they do not support lifting the statewide ban on uranium mining and milling. . . . The candidates alluded to a lack of studies showing that uranium could be mined without potentially harming the environment or public health. People have a right to do what they want with property they own, Adams said. However, "when use of those rights affect health safety," it is time for the government to step in, he said. The candidates then were asked if there might be a scenario in which they would

change their opinions on the uranium issue. There is no sufficient evidence that uranium "tailings" can be stored safely, Adams responded. Who knows what information might be presented in the future, he said. But any decision on whether uranium should be mined in Southside ultimately should be made by the region's residents, and state officials – especially those from other areas – should recognize that, he emphasized.

Mickey Powell, *Adams, Bowman Debate Issues*, MARTINSVILLE BULLETIN, May 24, 2013, attached to Ohlendorf Decl. as Exhibit 52.

Sen. Kenneth C. Alexander

Virginia has maintained a 30-year ban on uranium mining for serious and nondebatable reasons. Not only does the mining process produce a granular radioactive byproduct that poses a long-term containment risk, the immediate dangers to Virginia's aquifers and surface water are considerable. The site in Pittsylvania County, proposed by Uranium Mining Inc., would give us not only Virginia's first uranium mine, but the only active uranium mine east of the Mississippi River.

These factors are significant. Virginia's first uranium mine would be developed at a place that sharply contrasts with sites of active uranium mines out West. Those mines are predominantly situated in dry, sparsely populated regions of the United States and away from major tributaries. Mining at the proposed Virginia site has the potential to impact water, soil,

and air quality for hundreds of thousands of families who live downriver and downwind.

Our environment is a unique and priceless public good. Its purpose is to sustain everyone and not merely the interests of a few. Citizens should have a say in its stewardship, especially when the impact transcends regions and generations. Given what we all know, the decision-making process concerning uranium mining in Virginia should be transparent and conducted in good faith. . . . The current market price for uranium is hovering above $50 per pound. This is far below its five-year peak of $136.22 per pound experienced in June 2007; however, mining uranium still presents significant job and economic development opportunities. A study completed by Chumara Economics and Analytics found that a proposed project to mine uranium in Pittsylvania County has the potential to create more than 1,000 total jobs and generate more than $110 million in tax revenue for the commonwealth. We can expect the total economic impact over the mine's lifetime to approach $5 billion.

Just as important are the environmental costs, which are difficult to forecast and impossible to recoup. It is worth considering that in 1979, a dam that serviced the reservoir for New Mexico's Church Rock uranium mine collapsed spilling 90 million gallons of radioactive liquid and 1,100 tons of waste from uranium tailings into the Puerco River. This event impacted ranches and farmland as far as 50 miles into neighboring Arizona. Though technologies have improved and

more comprehensive best practices have been implemented, disasters such as this are as hard to predict as they are to prevent. An event of similar scale in Pittsylvania County would impact the environment and economy by tenfold.

Senator Kenneth Cooper Alexander, *Uranium Mining*, http://senatorkermethcalexander.com/issues/uranium-mining, attached to Ohlendorf Decl. as Exhibit 53.

Sen. George Barker

Virginia's Coal and Energy Commission is recommending that the General Assembly consider overturning a longstanding ban on uranium mining this legislative session. . . . Arlington Sen. Barbara Favola says the economic benefit to struggling Pittsylvania County is not enough to warrant the potential damage created by overturning the ban. She says she has a hard time trusting arguments that storing radioactive material underground is a good idea in the long run. "I simply can't believe that, because it's going to be stored underground for a very long time," Favola says. "And you're talking about radioactive material getting into people's groundwater." . . . Fairfax County Sen. George Barker remains undecided. "Clearly, some of the concerns have been addressed with the proposal to put it all underground," Barker. "Whether that's adequate to resolve it, I don't have an opinion on that yet."

Michael Pope, *Uranium Debate Heats Up As Virginia Assembly Session Begins*, WAMU 88.5, Jan. 7, 2013, attached to Ohlendorf Decl. as Exhibit 34.

Del. John Cosgrove

It's four hours from Norfolk, and is nowhere near reality yet, but the potential of a uranium mine 50 miles from one of Hampton Roads' main freshwater supplies has local leaders preparing for a fight this legislative session. . . . State Del. John Cosgrove, R-Chesapeake, was one of several lawmakers Virginia Uranium sent to France to tour a uranium mine. The goal was to allay their fears of the process. Originally not opposed to the idea, Cosgrove said this week that he thinks the risks are too great to lift the moratorium. "Even the smallest amount of contamination could ruin us," he said.

Clay Barbour & Jillian Noilin, *Legislative Battle Heating Up over Va. Uranium Mining*, THE VIRGINIAN-PILOT, Nov. 24, 2012, attached to Ohlendorf Decl. as Exhibit 54.

Del. John Cosgrove, R-Chesapeake, received gifts and trips valued at $15,775 – almost as much as his $17,640 annual salary as a delegate. . . . The bulk of the largesse directed at Cosgrove was the $12,449 spent by Virginia Uranium, the company lobbying to establish a uranium mine in Pittsylvania County. The company sent Cosgrove and several other lawmakers to visit a mine site in France.

The purpose of the trip, Cosgrove said, was to reassure the Virginia legislators that uranium could be mined safely with no chance of contaminating Lake Gaston, a major source of Hampton Roads' drinking water that lies downstream from the proposed mine site. But the trip convinced him of the exact opposite, Cosgrove said.

"They never showed us beyond any doubt that there couldn't be some catastrophic effect on our drinking water," he said. "I came back thinking that uranium mining is probably not in the best interest of Hampton Roads."

Bill Sizemore, *Gifts & Trips for Virginia Legislators*, THE VIRGINIAN-PILOT, Feb. 8, 2012, attached to Ohlendorf Decl. as Exhibit 50.

Del. Glenn R. Davis

I have voted twice to keep the moratorium against uranium mining because of the risk that it could endanger the water that Virginia Beach depends on for the health and economy of our citizens. Our energy solutions should include drilling offshore for natural gas in an environmentally safe manner that does not conflict with our partners in the military. We also should continue moving forward with alternative energy options including wind and solar power. These technologies hold much more promise for domestic energy production and Virginia Beach job creation than uranium mining does.

Voter Guide 2013 – House of Delegates 84th District, THE VIRGINIAN-PILOT, Oct. 27, 2013, attached to Ohlendorf Decl. as Exhibit 55.

Sen. Creigh Deeds

As a candidate for governor, I've laid out a comprehensive plan to meet our future energy needs and reduce Virginia's dependence on foreign oil. . . . While I believe nuclear power should be part of a comprehensive approach to energy here in the commonwealth, I also strongly believe that the moratorium on uranium mining should remain in place until scientists determine that uranium mining does not pose a risk to the health and safety of any Virginian.

The climate of Southside Virginia poses particular challenges to the safe mining of uranium. Because it often rains, there is a risk that radioactive material produced by uranium mining and processing could leach into groundwater. If such leaching occurred, it could contaminate water supplies and endanger Virginians all over Southside, from Danville to Virginia Beach. . . . As your governor, I will ensure that our energy future is not only plentiful and clean, but also safe for all Virginians.

Senator Creigh Deeds, Letter, MARTINSVILLE BULLETIN, Nov. 1, 2009, attached to Ohlendorf Decl. as Exhibit 56.

Creigh Deeds said Wednesday that if he is elected governor in November, he expects to fulfill the state's commitment to complete the widening of U.S. 58 across southern Virginia. . . . He also said he supports the study of uranium mining in Pittsylvania County but "the proof threshold is high" to allow such mining in the commonwealth.

"I don't see how you can mine uranium in any area of Virginia. There's too much rainfall. How do you develop a liner and cap that will protect tailings from contaminating the groundwater?" asked Deeds, who formerly lived in Danville.

Ginny Wray, *Deeds: Transportation, Cooperation Are Key*, MARTINSVILLE BULLETIN, May 28, 2009, attached to Ohlendorf Decl. as Exhibit 57.

Deeds said that energy independence is a part of our national security so he believes in a comprehensive approach, and nothing should be taken off the table. He said, though, that he is not convinced that we have the technology to make such mining safe.

Deeds said, when the issue came up in committee, he asked two questions, one he knew the answer to and the other he didn't. The questions were:

1. What about the terrain in Pittsylvania County has changed?

2. What about the science has changed?

The answer to question #1, which Deeds already knew, was nothing. The terrain is such that the mining may very well contaminate the groundwater and not just in Pittsylvania County. The problem could very well extend beyond, down to Hampton Roads.

As for #2, he would like to see a study done by the National Academy of Sciences. . . . The other issue is that of radioactive waste. Deeds was quite concerned about this, saying that radioactivity lasts forever, and even if

the technology exists to clean it up – which he was very skeptical of this being the case – the stigma of having radioactive waste in an area may be too much to overcome. Unless the technology exists to make uranium mining safe, I think I understood Deeds' position to be that he would not support it.

Sen. Creigh Deeds Talks Sense on Uranium Mining, SOUTHSIDE VIRGINIA AGAINST URANIUM MINING (Aug. 7, 2009), attached to Ohlendorf Decl. as Exhibit 58.

Del. Bill DeSteph

Should Virginia end the uranium mining moratorium?

We cannot embark on any legislation that could result in endangering our water supply. Virginia Beach worked too hard for too long to make sure the Lake Gaston pipeline came to fruition. Any actions that could possibly jeopardize our water supply must be rejected.

Voter Guide 2013 – House of Delegates 82nd District, THE VIRGINIAN-PILOT, Oct. 27, 2013, attached to Ohlendorf Decl. as Exhibit 59.

Sen. Adam Ebbin

One notable bill that was scheduled to be heard in last week's meeting of the Agriculture, Conservation and Natural Resources Committee was a measure that would have lifted Virginia's 30-year moratorium on uranium mining. Our climate is distinctly different

than that of most locations where uranium is currently mined, and I believe that lifting the ban could have posed serious threats to the Southside Virginia water table and resulted in other significant environmental concerns. After counting the votes of members of the Agriculture, Conservation and Natural Resources members, including mine, the patron of the legislation decided to strike the bill, laying the issue to rest for this session.

Senator Adam Ebbin, *Medicaid Expansion, Transportation and Uranium Ban*, MOUNT VERNON PATCH, Feb. 5, 2013, attached to Ohlendorf Decl. as Exhibit 60.

Environmental groups have been critical of uranium mining because of concerns over a radioactive byproduct known as "tailings," a sand-like substance left over after the uranium is milled. Some legislators say they are concerned that the radioactive byproduct could flow downstream into the Hampton Roads area. That means Pittslvania County could see the economic benefits while the Hampton Roads area has to deal with the pollution.

"I don't want to sell the public health at any price," said state Sen. Adam Ebbin (D-30). "We should be serious about other kinds of economic development besides dirty energy."

Michael Lee Pope, *Uranium Money Spreads Across Virginia in Radioactive Debate*, ALEXANDRIA GAZETTE PACKET, Nov. 27, 2012, attached to Ohlendorf Decl. as Exhibit 61.

Del. James E. Edmunds, II

The proposed Coles Hill uranium site in Pittsylvania County is located about a mile from the 1 Banister River, which flows on through Halifax County, eventually into Buggs Island Lake. The Banister is part of the Roanoke River Basin and this river has been named as one of the 2011 10 most endangered rivers in the United States because of its proximity to the proposed mine. . . . I had the privilege of speaking to an ecology class at Halifax County High School concerning some of the dangers of uranium mining. I hope that I was able to alert them to be vigilant on this issue.

Delegate James E. Edmunds II, Letter to the Editor, CHATHAM STAR-TRIBUNE, Apr. 11, 2012, attached to Ohlendorf Decl. as Exhibit 62.

A state wide fundraiser is being organized in hopes of raising $100,000 in opposition of uranium mining. Delegate James Edmunds will host the fundraiser on his Halifax County farm this September. . . . "If we're wrong with uranium mining we are wrong forever. There is no whoops we messed up there, you've ruined a lifestyle and generations of living in this part of the state, and I'm just not prepared to give that up yet," he said.

Delegate Organizing Anti-Uranium Fundraiser, WSET, June 28, 2012, attached to Ohlendorf Decl. as Exhibit 63.

Delegate James Edmunds is taking a huge stand against uranium mining by hosting a fundraiser at his

home Sept. 15 in hopes of raising $100,000 to fight the ban to lift a 30-year state moratorium on uranium mining. . . . He said it was important to keep the ban on uranium mining because of its impact on the public.

"All the studies done on uranium mining have indicated that there is no 100 percent assurance that it can be done safely. The same thing can be said when you step outside in the morning, but the difference here is if we are wrong and our water, air, and soil get contaminated, we're wrong forever," Edmunds said.

He explained the upkeep of the uranium mine could become costly, and he questions where the money will come from to pay someone to monitor the uranium landfills that must be monitored forever after mining has begun.

Edmunds said the stigma of uranium mining has already hurt economic development and property value in the area.

Danielle Vaughn, *Delegate Raising Money to Keep Ban on Uranium Mining in Place*, HALIFAX-GAZETTE-VIRGINIAN, July 31, 2012, attached to Ohlendorf Decl. as Exhibit 64.

Bills introduced last week would lift a moratorium on uranium mining at the site here, known as Coles Hill. Political supporters say that the mining would bring economic benefits and that risks from radioactive wastes, or tailings, can be safely managed. Opponents fear the contamination of drinking water in case of an accident, and a stigma from uranium that would deter

people and businesses from moving to the area. . . . Delegate James E. Edmunds II, a Republican, said that in the event that radiation leaked into the groundwater, his district would be one of the first affected. "There's no waiting for a big rain to clean it up," he said. "I'm not going to have that as my legacy."

Trip Gabriel, *Rift Widens over Mining of Uranium in Virginia*, N.Y. TIMES, Jan. 19, 2013, attached to Ohlendorf Decl. as Exhibit 65.

[A] quintet of lawmakers – senators Frank Ruff of Clarksville and Don Merricks of Chatham, and delegates Tommy Wright, James Edmunds and Danny Marshall, representing communities from Lunenburg to Danville – wrote a letter to fellow legislators asking in no uncertain terms that any attempt to lift the moratorium be delayed.

December 28, 2011

Dear Colleague,

I hope each of you had a great Christmas and are looking forward to 2012!

The National Academy of Sciences report on uranium mining has been released, following similar reports by Chmura Economics, the Danville Regional Foundation, Virginia Beach and others. . . . The reports are long and detailed. Parts are dense and complex. What they are not is boring. These reports deserve to be read, particularly the Academy's sections on the risks to public health and the environment. . . . The serious threats

that the Academy outlines deserve to be thoroughly absorbed and extensively debated by the public and knowledgeable contributors before any decisions are made. . . . With respect to the reports themselves, a few observations are appropriate. All such reports are shaped around a set of guiding assumptions. In these cases, those assumptions include:

- The establishment and use by the company of internationally best practices in all areas.
- The use of best technology, whatever the cost.
- The development and establishment and financing of a credible regulatory structure.
- The assumption that there will be no consequential management failures, system or machinery failures, human error, external or unexpected events.

Assumptions are just that, of course. There is no guarantee that best practices will be utilized. There is no certainty that best technologies will be employed, particularly if they prove to be significantly more expensive or constraining. Both the Academy and Chmura make it clear there is no state or federal regulatory scheme or expertise in place remotely sufficient to monitor or regulate this industry.

An even larger concern is the inability to address adequately those events that are unknown and unknowable as to time and circumstance. History teaches that human error and/or system failures are inevitable. The

unexpected happens. Design flaws show up after the fact. The Academy cannot predict what or when or how but anyone who has worked in complex industrial operations knows that things will go wrong. Mistakes occur, hurricanes and earthquakes will happen. One only has to read the newspaper to see the catastrophic consequences of the failure of operations that were designed and operated and regulated by the best and the brightest. Three Mile Island, Chernobyl, the Challenger, Fukushima, Union Carbide come quickly to mind – the question is not if these events will occur, but when and at what cost.

It is notable that even assuming best practices and best technology and extensive regulation, the reports detail serious consequences to human health and the environment that can be expected. It is not difficult to conclude the Academy is sending clear warning signals that mining and processing uranium in a wet climate subject to flooding and extreme weather events in a densely populated area is a very, very bad idea . . .

I close with the quote attributed to Paul Locke, chairman of the Academy committee that produced the report. . . . "The report didn't say you can mitigate all risks. It said you can mitigate some risks".

We are being asked to push through a proposal to lift a thirty-year old ban on an industry with an abysmal environmental record that, under the most optimistic assumptions, experts conclude the most that can be expected is to reduce some of the quite serious risks to the health and welfare of the surrounding community.

How on earth can a responsible person take that gamble?

Tom McLaughlin, *Holding Pattern*, S. BOSTON NEWS & RECORD & MECKLENBURG SUN, Jan. 25, 2012, attached to Ohlendorf Decl. as Exhibit 66.

Sen. John S. Edwards

The company that wants to mine uranium in Virginia is supporting a bill in the upcoming General Assembly calling for regulations to govern the proposed mining, according to lobbyists for Virginia Uranium. The move is widely seen by environmentalists and others as a way to authorize the mining while avoiding an up or down vote on the controversial project.

. . . Virginia state Sen. John Edwards, D-Roanoke, who opposes the mine, says the vote on regulations is an attempt to shift the focus away from a more difficult debate.

"I can see how those who want to promote the uranium mine would rather argue over the details of regulation than the bigger question of can you do it safely and protect public health and safety, the question of should we do it at all," Edwards says.

Rose Ellen O'Connor, *End Run: Supporters of Uranium Mining in Virginia Push Bill to Effectively Lift the Ban Without an Up or Down Vote*, NATURAL RESOURCES NEWS SERVICE, Nov. 19, 2012, attached to Ohlendorf Decl. as Exhibit 67.

Del. David Englin

A company seeking to mine what is thought to be the largest uranium deposit in the United States flew several Virginia state legislators to France last month as part of a lobbying campaign to get the state to overturn its ban on mining the radioactive material. . . . As a committed environmentalist, I believe there is great value in seeing mining sites and operations and their aftermath firsthand, and in hearing the other side's best and strongest case that uranium can be extracted safely from the site in south-central Pittsylvania County without contaminating the land, air and drinking water nearby. . . . Uranium mines elsewhere are primarily in arid geographies. The sites in France and Virginia are in fertile, moist areas, surrounded by agriculture and close to rivers that supply drinking water to major communities. Uranium deposits elsewhere are in sandy soil and loose rock, while deposits in France and Virginia are ensconced in granite. . . . In addition to touring mine sites in and around Bessines, we met with the local mayor and town manager and spoke with an area farmer. We asked them how mining affected the environment, public health and agriculture as well as air and water quality and safety in the region.

David Englin, *Virginia Del. David Englin Explains Why He Accepted a Trip to France*, THE WASHINGTON POST, July 1, 2011, attached to Ohlendorf Decl. as Exhibit 93.

Sen. Barbara Favola

Virginia's Coal and Energy Commission is recommending that the General Assembly consider overturning a longstanding ban on uranium mining this legislative session. . . . Arlington Sen. Barbara Favola says the economic benefit to struggling Pittsylvania County is not enough to warrant the potential damage created by overturning the ban. She says she has a hard time trusting arguments that storing radioactive material underground is a good idea in the long run. "I simply can't believe that, because it's going to be stored underground for a very long time," Favola says. "And you're talking about radioactive material getting into people's groundwater."

Michael Pope, *Uranium Debate Heats Up As Virginia Assembly Session Begins*, WAMU 88.5, Jan. 7, 2013, attached to Ohlendorf Decl. as Exhibit 34.

Northern Virginia may be hundreds of miles away from the Southside community where a family business is seeking to overturn a longstanding ban on uranium mining in Virginia. But the toxic politics of uranium is red-hot throughout the state as members of the General Assembly arrive in Richmond this week. . . . Most of the delegation from Northern Virginia is strongly opposed to overturning the ban, which has been in place since 1982. . . . "There's a big division within the business community about whether this is a good thing or a bad thing," said Sen. Barbara Favola

(D-32). "Those that are involved in tourist-type activities do not believe that removing the ban is a good thing."

Supporters of uranium mining say burying the waste in Pittsylvania County is a reasonable compromise to allay concerns about contaminated groundwater. But opponents fear that the technology is still emerging, and they don't want legislators gambling with the health of millions of people. If the groundwater in Pittsylvania is contaminated, opponents fear, people downstream in the Hampton Roads area might suffer. . . . The issue pits economics against environmentalism because lifting the ban would add jobs and economic development to a struggling part of the state. A recent study from the George Mason Center for Regional Analysis at George Mason University concluded that overturning the longstanding ban would bring more than $1 million to Pittsylvania County, adding about 2 percent to the county's revenue base. . . . "There are only 300 jobs generated," said Favola. "And I have to believe over time that many of those jobs would be automated."

Michael Lee Pope, *Toxic Politics: Northern Virginia Delegation Split on Uranium Mining*, THE CONNECTION, Jan. 10, 2013, attached to Ohlendorf Decl. as Exhibit 68.

Sen. Mark Herring

Over the past year, I've had the opportunity to meet with interested stakeholders on both sides of the debate over whether to end the ban on uranium mining and milling in Virginia. I have carefully considered their positions, as well as the scientific evidence, and I have concluded that ending the ban on uranium mining and milling is not the right course for our Commonwealth. . . . The health and safety of the public, and of the environment, should be of paramount concern when considering issues such as this and I am simply not convinced that uranium mining can be conducted in Southside Virginia in a safe and environmentally responsible way. I take very seriously the concerns raised by citizens, business leaders and local officials in both Southside and Hampton Roads who have expressed to me their fears with regard to the potential for negative public health impacts, particularly water supply contamination.

Loudoun Democrats, *Herring Opposes Lifting Ban on Uranium Mining*, LOUDOUN CNTY. DEMOCRATIC COMM., Dec. 19, 2012, attached to Ohlendorf Decl. as Exhibit 36.

Del. Patrick Hope

The Virginia League of Conservation Voters (VALCV) has endorsed Delegate Patrick A. Hope (D-Arlington) for re-election to the Virginia General Assembly . . . "The health risks associated with uranium mining are well-documented and too great to ignore. Lifting the

moratorium on uranium mining would be like playing Russian roulette with the health and safety of tens of thousands of Virginians. I'm not willing to do that now or ever."

Virginia League of Conservation Voters Endorses Delegate Patrick Hope for Re-Election, HOPE FOR VIRGINIA.ORG (June 20, 2011), attached to Ohlendorf Decl. as Exhibit 69.

Del. Kaye Kory

On at least one important issue – the question of whether or not Virginia will overturn the ban on uranium mining – a bipartisan group of legislators in the House of Delegates and the Senate will be working together. This group intends to ensure that all significant risks to public health, safety, and the economy will be fully factored into the ultimate decision.

My Republican colleague, Del. James Edmunds II, who represents the 60th District in Southside Virginia, prepared a thoughtful letter to fellow legislators urging the utmost caution in addressing what he calls "the most important public policy issue for the session." His letter is based on several studies, including a report issued in December by National Academy of Sciences (NAS) that details the technical, environmental, health, safety, and regulatory challenges posed by lifting the 30-year ban.

Though the National Academy team was not asked to make a recommendation, the report concludes that

there are "steep hurdles to be surmounted" to mitigate the risks of uranium mining. Edmunds and four other Southside Republican legislators who signed the letter live and work in the region of the commonwealth most affected by uranium mining. Based on the facts presented, they are clearly skeptical that any potential benefits could outweigh the significant risks that are simply beyond our ability to fully contain.

Del. Kaye Kory, *Kory's Report from Richmond: Major Environmental Issues on the Agenda*, ANNANDALE VA, Jan. 5, 2012, attached to Ohlendorf Decl. as Exhibit 70.

OPEN LETTER TO GOVERNOR MCDONNELL: DON'T ENDANGER OUR WATER SUPPLY!

Dear Governor:

I urge you to cancel your short-sighted plans to withdraw Virginia from the Interstate Commission on the Potomac River Basin (ICPRB). . . . I firmly believe that because some potential uranium mining sites would drain into the Occoquan and on into the Potomac, we should be seeking, not discarding, the technical capabilities and expertise available through the ICPRB as we face this vitally important environmental question in the upcoming session of the General Assembly.

Del. Kory to Gov. McDonnell: "Don't Endanger Our Water Supply!", BLUE VIRGINIA, Oct. 17, 2011, attached to Ohlendorf Decl. as Exhibit 71.

Del. K. Robert Krupicka, Jr.

Legislators across Virginia say they are being heavily lobbied on the issue of uranium mining, which is certain to become one of the hottest topics in the upcoming session of the General Assembly . . . Environmentalists say they are concerned about a radioactive byproduct of uranium mining known as "tailings," which they say can pollute downstream communities in the Hampton Roads area. Delegate Rob Krupicka says he'll vote against lifting the ban. "I don't disagree with the fact that this portion of the state needs economic development, but I also think that folks shouldn't have to sacrifice the health of their water or the long-term health of their community for jobs," says Krupicka.

Michael Pope, *Uranium Mining Could Prompt Radioactive Debate In Richmond*, WAMU 88.5, Nov. 19, 2012, attached to Ohlendorf Decl. as Exhibit 72.

Del. Alfonso Lopez

Yesterday I attended the Keep the Virginia Uranium Ban meeting at the Arlington Public Library. Though this is a complex issue with a lot of nuance, it is clear that the only appropriate response that protects public health is to keep the ban.

Uranium mining in the United States does not have a good record to begin with, and the proposed site of the first Uranium mine in Virginia poses spectacular risks. In the western United States, Uranium mining has

had the advantage of a relatively arid climate. The risk of Uranium and other toxic and radioactive materials entering the drinking water has been relatively low.

That is not the case in Virginia. The proposed site in Virginia lies in a FEMA designated flood plain. The company has also not yet provided their plan on how to deal with the 28 million tons of Uranium waste that would remain in Virginia. The risk of contamination (especially in the groundwater) is too great. . . . Fundamentally, there is no scenario in which it makes sense for Virginia to lift the ban on Uranium mining. In these discussions we must keep in mind the health and safety of our communities, now and for future generations. The EPA has said that the waste products of Uranium mining must be kept away from people for at least 1,000 years. It would be incredibly short-sighted to create a carcinogenic toxic legacy that will last into the next millennia.

Alfonso Lopez, *Keep the Ban*, ALFONSOLOPEZ.ORG (July 1, 2011), attached to Ohlendorf Decl. as Exhibit 73.

There is a very active movement taking place to begin mining for uranium in certain parts of the Commonwealth of Virginia. . . . I continue to believe that mining for uranium in Virginia is a bad idea. The U.S. EPA has stated that waste from uranium must be kept from human contact for one thousand (1,000) years. The mining projects will create several million tons of uranium waste that will have to be controlled with State resources. Since the sites are within regular flood

zones there is the potential to contaminate the groundwater for large segments of Virginia. At best, these projects will only create approximately 400 jobs.

Simply put – I do not believe that we should create a toxic, carcinogenic legacy for a millennium of future Virginians in order to realize a short term (approximately 25 years) economic benefit.

Alfonso Lopez, *Politics & Policy Along the Pike – Alfonso's Notes from Richmond*, ALFONSOLOPEZ.ORG (Jan. 18, 2012), attached to Ohlendorf Decl. as Exhibit 74.

Del. Manoli Loupassi

Legislation is now before the General Assembly to remove the ban on mining uranium. I do not believe it is in the best interests of the commonwealth and its citizens to remove the ban.

When the costs of mining uranium are weighed against the benefits, the decision is clear.

Many proponents of uranium mining allege that a refusal by the assembly to allow mining might somehow be a deprivation of private property rights. This analysis ignores the good neighbors of the Coles property, many of whom have owned family property for hundreds of years.

Should not their property rights be protected and respected? What about the devaluation of their property values and the effects on property owners who are downstream from the site? It is clear to me that local

neighbors, who do not want a hazardous waste site next to them, have property rights that deserve protection.

Arguments relative to energy independence are also unpersuasive. The market for any uranium mined in Virginia is not Virginia, or even the United States, alone. Uranium is like all other commodities – coal, natural gas, oil – and is sold on a global market.

In most cases, uranium is traded through contracts negotiated between a buyer and seller. Pricing can be as simple as a fixed price, or based on various reference prices with economic corrections built in. Nuclear energy producers will purchase uranium at the best price, not because it is produced in a particular location.

I have heard no outcry from the commonwealth's chief energy suppliers that this bill is either needed or required. Additionally, this is not oil; most of the uranium imported into the United States is provided by two of America's best allies and trading partners – Canada and Australia – and suggestions of harm to America's energy independence if uranium is not mined in Virginia is unpersuasive.

The anticipated economic benefits of the proposed mining operation are speculative. The operation of uranium mining is price-dependent. When prices are high, mines flourish. When prices drop, uranium mines close and uranium miners lose their jobs. During the Cold War, demand for uranium reached an all-time high

during the nuclear proliferation era. That high demand didn't last. The decline in the need for uranium at the end of the Cold War, paired with the discovery of a higher grade of uranium in Australia and Canada, created a drop in the price and the closure of mines and mills throughout the United States.

In 2001, there were only three operating mines in the United States. In 2007, with the announcement that Japan, Germany and France would begin phasing out the use of nuclear energy, uranium prices fell precipitously and mines closed. The "Boom to Bust to Boom to Bust" cycle is well-documented in the uranium mining industry, and has shown amazing consistency over the past 25 years.

The economic consequences for the local region in the event of a long-term price-driven production disruption cannot be ignored, particularly when local economic development professionals have openly suggested that the stigma of uranium mining and milling could have a chilling effect on other kinds of business recruitment for the region.

Environmental concerns are not to be ignored. The property in question is within two miles of 250 privately owned artesian wells. The Coles property is drained by Mill Creek, which empties to the Kerr Lake Reservoir, the second largest freshwater reservoir in the United States and supplies water to nearly 1.2 million people.

Finally, there is almost unanimous opposition among my colleagues in the House of Delegates and the Senate who represent the people in southern Virginia to removing the ban on uranium mining. It is revealing that the people who allegedly stand to gain the most economically from lifting the ban have expressed the greatest concern about the financial rewards promised by uranium mining. These leaders have reached the conclusion that supposed economic benefits do not outweigh the health, safety and economic risks that they are being asked to take.

Traditional local businesspeople and organizations in the region – such as the Danville/Pittsylvania Chamber of Commerce and the Halifax Chamber of Commerce – have come out in strong opposition to removing the ban on uranium mining. Our state's chief jobs creation officer, Lt. Gov. Bill Bolling, has recently announced his belief that the state's ban on uranium mining and milling must remain in place. Virtually every jurisdiction from Danville to the Atlantic Ocean has enacted a resolution in support of keeping the ban.

As I weigh the costs versus the benefits of uranium mining, I believe the risks of economic speculation, environmental concerns and the adverse affects on local property owners far outweigh the benefits cited by the bill's proponents. It is my intention to oppose this legislation and I will work in a bipartisan way to defeat the lifting of the ban on uranium mining.

Manoli Loupassi, *Loupassi: Don't Lift Uranium Mining Ban; Risks Outweigh Supposed Benefits*, RICHMOND

TIMES-DISPATCH, Jan. 25, 2013, attached to Ohlendorf Decl. as Exhibit 75.

Del. Danny Marshall

The possibility of lifting a 30-year ban on uranium mining in Virginia will be a hot topic in the 2013 General Assembly when it convenes Jan. 9, according to local lawmakers. It will be "a nuclear issue, no pun intended," Del. Danny Marshall, R-Danville, told local business leaders and government officials during the Martinsville-Henry County Chamber of Commerce's annual Pre-legislative Breakfast on Tuesday at the Virginia Museum of Natural History. . . . Three of the four lawmakers who spoke during the breakfast oppose uranium mining. By focusing on job creation, the company was "very smart in its approach" to try and convince people to favor repealing the ban, Marshall said. Yet based on his understanding of mining processes, Marshall said for every 2,000 pounds of materials mined, only a pound would be actual uranium. The rest would be "tailings" left behind with radioactivity that could take thousands of years to dissipate, he said. Heavy rains and high winds could spread those radioactive materials over long distances, perhaps to other states, according to Marshall.

Uranium Likely to be Hot Topic, THE MARTINSVILLE BULLETIN, Dec. 19, 2012, attached to Ohlendorf Decl. as Exhibit 32.

[A] quintet of lawmakers – senators Frank Ruff of Clarksville and Don Merricks of Chatham, and delegates Tommy Wright, James Edmunds and Danny Marshall, representing communities from Lunenburg to Danville – wrote a letter to fellow legislators asking in no uncertain terms that any attempt to lift the moratorium be delayed.

December 28, 2011

Dear Colleague,

I hope each of you had a great Christmas and are looking forward to 2012!

The National Academy of Sciences report on uranium mining has been released, following similar reports by Chmura Economics, the Danville Regional Foundation, Virginia Beach and others. . . . The reports are long and detailed. Parts are dense and complex. What they are not is boring. These reports deserve to be read, particularly the Academy's sections on the risks to public health and the environment. . . . The serious threats that the Academy outlines deserve to be thoroughly absorbed and extensively debated by the public and knowledgeable contributors before any decisions are made. . . . With respect to the reports themselves, a few observations are appropriate. All such reports are shaped around a set of guiding assumptions. In these cases, those assumptions include:

- The establishment and use by the company of internationally best practices in all areas.

- The use of best technology, whatever the cost.

- The development and establishment and financing of a credible regulatory structure.

- The assumption that there will be no consequential management failures, system or machinery failures, human error, external or unexpected events.

Assumptions are just that, of course. There is no guarantee that best practices will be utilized. There is no certainty that best technologies will be employed, particularly if they prove to be significantly more expensive or constraining. Both the Academy and Chmura make it clear there is no state or federal regulatory scheme or expertise in place remotely sufficient to monitor or regulate this industry.

An even larger concern is the inability to address adequately those events that are unknown and unknowable as to time and circumstance. History teaches that human error and/or system failures are inevitable. The unexpected happens. Design flaws show up after the fact. The Academy cannot predict what or when or how but anyone who has worked in complex industrial operations knows that things will go wrong. Mistakes occur, hurricanes and earthquakes will happen. One only has to read the newspaper to see the catastrophic consequences of the failure of operations that were designed and operated and regulated by the best and the brightest. Three Mile Island, Chernobyl, the Challenger, Fukushima, Union Carbide come quickly to

mind – the question is not if these events will occur, but when and at what cost.

It is notable that even assuming best practices and best technology and extensive regulation, the reports detail serious consequences to human health and the environment that can be expected. It is not difficult to conclude the Academy is sending clear warning signals that mining and processing uranium in a wet climate subject to flooding and extreme weather events in a densely populated area is a very, very bad idea . . .

I close with the quote attributed to Paul Locke, chairman of the Academy committee that produced the report. . . . "The report didn't say you can mitigate all risks. It said you can mitigate some risks".

We are being asked to push through a proposal to lift a thirty-year old ban on an industry with an abysmal environmental record that, under the most optimistic assumptions, experts conclude the most that can be expected is to reduce some of the quite serious risks to the health and welfare of the surrounding community. How on earth can a responsible person take that gamble?

Tom McLaughlin, *Holding Pattern*, S. BOSTON NEWS & RECORD & MECKLENBURG SUN, Jan. 25, 2012, attached to Ohlendorf Decl. as Exhibit 66.

Could Virginia's 30-year-long ban on uranium mining finally be lifted next year? It looks like the question will be foremost when the new General Assembly convenes next year on January 9. . . . But the skewed

refinement ratio of uranium remains a major concern. According to the Martinsville Bulletin, Del. Danny Marshall (R-Danville) points out that for every 2,000 pounds of mined materials, just about a pound would be viable uranium. This creates the major problem – massive amounts of radioactive waste.

Swagato Chakravorty, *Virginia Could Lift Uranium Mining Ban*, WEALTH DAILY, Dec. 20, 2012, attached to Ohlendorf Decl. as Exhibit 76.

Reactions are mixed to the Uranium Working Group's final report on what a regulatory framework would look like if the General Assembly were to lift the moratorium on uranium mining. . . . State Del. Danny Marshall, R-Danville, said he had yet read the UWG report. He encourages all people to read the report so they will be informed on the issue, which he expects will come up in the upcoming session of the General Assembly. "It's not just a Pittsylvania County issue; it really affects the whole state of Virginia," he said. Marshall said he opposes lifting the moratorium. "Our part of the state needs jobs," he said. But, "I think the stigma uranium mining would have on the whole region would be a detriment. I think it would hurt us more than help us."

Paul Collins, *Reactions to Uranium Mining Report Mixed*, MARTINSVILLE BULLETIN, Dec. 2, 2012, attached to Ohlendorf Decl. as Exhibit 77.

State Sen. John C. Watkins, R-Powhatan, confirmed Monday he will sponsor a bill in 2013 to lift Virginia's moratorium on uranium mining. . . . Delegate Danny

Marshall, R-Danville, says he has spoken with Watkins and disagrees with the senator. "It doesn't have to be the way he's doing it," Marshall said. "I think it's backwards, myself. I think there should first be a vote to lift the moratorium." . . . Marshall says he is still plodding through the report, but what he's read so far doesn't convince him that lifting the moratorium in [sic] the right thing to do.

"Everything's got a risk. Everything's got a reward," he said. "I think the risks are too high for the rewards."

Mary Beth Jackson, *State Senator to Sponsor Uranium Mining Legislation*, DANVILLE REGISTER & BEE, Dec. 3, 2012, attached to Ohlendorf Decl. as Exhibit 78.

Legislation to start the ball rolling on uranium mining at a Southside Virginia site rich with the radioactive mineral will be submitted in both chambers of the General Assembly. . . . "The risks far outweigh the reward that Pittsylvania County will receive, or that the state of Virginia will receive," said Del. Danny Marshall, a Danville Republican, who cited concerns about waste from milling, the process of separating uranium ore from rock, known as tailings, that would retain their radioactivity long after a mine would be decommissioned.

Julian Walker, *Va. Uranium Supporters Take Message to Richmond*, THE VIRGINIAN-PILOT, Jan. 11, 2013, attached to Ohlendorf Decl. as Exhibit 79.

Del. Bobby Mathieson

Six candidates for the House of Delegates flashed their green credentials Wednesday night to about 100 residents at a forum on environmental issues. . . . Republicans at the forum said it's important to explore uranium mining at a site in Pittsylvania County. "We've got to let the science play out," said Republican Ron Villanueva, a Beach councilman and defense contractor challenging Democrat Del. Bobby Mathieson, a retired police officer now working for a security firm. They're vying to represent the 21st District. Mathieson and other Democrats said the risk of the proposed mine contaminating Lake Gaston, Virginia Beach's water supply, is too great. "We spent too many years trying to get that water," he said.

Aaron Applegate, *Green Forum for House Candidates Spurs Talk About Oil*, THE VIRGINIAN-PILOT, Sept. 24, 2009, attached to Ohlendorf Decl. as Exhibit 80.

Del. Jennifer McClellan

One hotly contested issue is whether to lift the 30-year moratorium on uranium mining and milling in Virginia. . . . The National Academy of Science's study . . . noted that there is limited experience in the United States, and none in Virginia, with modern underground and open-pit uranium processing. Unlike the western states that mine uranium, Virginia's climate

is prone to flooding and groundwater contamination. . . . We can certainly expand nuclear energy capacity without the Cole's Hill uranium: Existing, known global uranium reserves provide more than a 50-year supply, and we have the technology to develop nuclear facilities powered by recycling nuclear waste. As for the jobs argument, the views of the citizens, businesses leaders, and elected officials in the region are instructive.

A majority of the people in Southern Virginia have expressed opposition to lifting the ban, including the area's legislators, local governments and the Danville Pittsylvania County Chamber of Commerce (in a column on today's Commentary front), concluding that the potential risks far outweigh the potential and yet unknown rewards.

These risks include the health impacts of exposure to uranium, contamination of drinking water from Pittsylvania County to Virginia Beach and negative impacts on the region's existing businesses, property values and ability to attract, retain and grow jobs.

The negative impacts from uranium mining and milling will far outlast the actual operation of the mine. The waste product of uranium mining, known as "tailings," retains significant amounts of uranium as well as by-products, such as radium and thorium, heavy metals including lead, arsenic, and mercury, and other toxic materials. The Coles Hill site is estimated to produce at least 28 million tons of uranium waste, which

will remain radioactive for thousands of years and need to be contained on-site indefinitely.

Failure of the waste storage facility could result in the contamination of local groundwater sources and downstream drinking water sources for more than 1.9 million people in Halifax, Virginia Beach, Norfolk, Chesapeake and North Carolina. The regulatory framework to govern the process could cost up to $5 million annually. . . . Nor is the impact of the mining and storage of uranium in Coles Hill restricted to the immediate geographic area.

For these reasons, the Virginia Municipal League, the Virginia Association of Counties, the Virginia Farm Bureau, the Fairfax and Fauquier Water Authorities, environmental organizations, and local governments from practically every community downstream from the proposed site, from Halifax to Virginia Beach, and the entire Roanoke River Basin community, all oppose lifting the ban. Even Lt. Gov. Bill Bolling, the tie-breaking vote in the Senate, recently announced his opposition to lifting the ban.

Jennifer McClellan, *McClellan: Virginia Can Live Without Uranium Mines*, RICHMOND TIMES-DISPATCH, Jan. 13, 3013 [sic], attached to Ohlendorf Decl. as Exhibit 81.

Del. Don Merricks

The possibility of lifting a 30-year ban on uranium mining in Virginia will be a hot topic in the 2013 General Assembly when it convenes Jan. 9, according to local lawmakers. It will be "a nuclear issue, no pun intended," Del. Danny Marshall, R-Danville, told local business leaders and government officials during the Martinsville-Henry County Chamber of Commerce's annual Pre-legislative Breakfast on Tuesday at the Virginia Museum of Natural History. . . . Three of the four lawmakers who spoke during the breakfast oppose uranium mining. . . . Del. Don Merricks, R-Pittsylvania County, said uranium is found throughout Virginia but studies have shown that the site the company wants to mine is the only potentially viable uranium mining location in the state. "I could live with the mine" itself, Merricks said. "The problem is the stuff that's left" after mining occurs, essentially forever. "I don't think we're ready for uranium mining," added state Sen. Bill Stanley, R-Glade Hill. "The risk is too great."

Uranium Likely to be Hot Topic, THE MARTINSVILLE BULLETIN, Dec. 19, 2012, attached to Ohlendorf Decl. as Exhibit 32.

The state delegate who represents the site of a proposed uranium mining and milling project in Pittsylvania County said Thursday that he remains opposed to lifting Virginia's moratorium on uranium mining, voicing concerns about the project's environmental and economic impacts.

"At this point in time, with so many unanswered questions, I don't think it is the right thing to write regulations or lift the ban on mining and milling uranium," said Del. Don Merricks, R-Chatham, during a panel discussion at the state Capitol. . . . Merricks said stringent regulations don't guarantee protection from environmental risks associated with milling uranium. He also raised concerns that the project could stigmatize a region that is struggling to revamp its economy and reduce high unemployment rates.

"There is no question in my mind that mining and milling will provide the potential for health risks and environmental contamination," Merricks said. "Even with the world's best practices in place and the most stringent regulations, the potential for contamination still exists." . . . Merricks said he remains concerned about the waste product, or tailings, that would be left over from the milling process. The company said it plans to store the tailings in secure, underground containment facilities to mitigate the risk of contamination. But Merricks, echoing concerns raised by environmental groups and other opponents, likened it to maintaining "a Superfund waste site forever."

Michael Sluss, *Del. Don Merricks Opposed to Mining Uranium*, THE ROANOKE TIMES, Dec. 6, 2012, attached to Ohlendorf Decl. as Exhibit 82.

When people come to Southside Virginia, Adam Lynch said, they are looking for nature, clean air, lakes and pretty mountains. . . .

Delegate Don Merricks, a Republican from Pittsylvania County, said he has talked to Realtors who are having trouble selling homes because the General Assembly is considering allowing uranium mining there.

That prospect is hurting private schools in the area, too. Merricks said Chatham Hall, a prestigious private school for girls, has noticed parents "shopping around" and putting their children elsewhere because of concerns about the proposed mine. . . .

Merricks said he personally supports the mining of uranium. However, he said the state should heed the wishes of local residents: If a clear majority of people oppose lifting the moratorium, Merricks says it should stay in place.

Merricks said he is not so concerned about the mining as he is about the tailings – the radioactive debris that remains after the uranium has been extracted.

According to federal law, Merricks said, the tailings must remain on the site where the milling occurred. The legislator fears what could happen to the tailings in a climate where hurricanes, tornadoes and earthquakes are a possibility. . . . Legislators such as Sen. John Watkins and Delegate Lee Ware, who represent districts on the outskirts of the Richmond area, are spearheading the drive to lift the moratorium against uranium mining.

"I was going to suggest that since Sen. Watkins from Powhatan and Delegate Ware of Powhatan are so adamant about doing this, why don't we just haul the ore

up there and mill it in Powhatan County?" Merricks said jokingly.

Alix Hines, *Is Uranium Mine Scaring People from Southside?*, CAPITAL NEWS SERVICE, Jan. 17, 2013, attached to Ohlendorf Decl. as Exhibit 35.

The process of taking solid rock containing uranium ore, crushing it and using chemicals to leech out the useful uranium – which is referred to as "milling" – is one of the more controversial parts of the uranium mining issue facing Pittsylvania County and Virginia. Cale Jaffe, senior attorney for the Southern Environmental Law Center, and Delegate Don Merricks, R-Pittsylvania County, sided with one another on the uranium milling issue during last week's recent panel discussion in Richmond, saying the "what-ifs" have not been sufficiently addressed. "It's the milling part of the process that gives me great pause and reservation," Merricks said. . . . Merricks added, "I do not like putting years of containment on citizens of the commonwealth." The leftover waste rock from the milling process – called tailings – would still be radioactive and would have to be monitored for generations. Jaffe, calling milling "the driving issue," agreed. "You're dealing with a significant amount of mill tailings waste that retains about 85 percent of its radioactivity," Jaffe said. "Managing that for the long term is what's driving the debate."

Mary Beth Jackson, *Milling 'Driving Issue' of Uranium Controversy*, THE DANVILLE REGISTER & BEE, Dec. 10, 2012, attached to Ohlendorf Decl. as Exhibit 30.

[A] quintet of lawmakers – senators Frank Ruff of Clarksville and Don Merricks of Chatham, and delegates Tommy Wright, James Edmunds and Danny Marshall, representing communities from Lunenburg to Danville – wrote a letter to fellow legislators asking in no uncertain terms that any attempt to lift the moratorium be delayed.

December 28, 2011

Dear Colleague,

I hope each of you had a great Christmas and are looking forward to 2012!

The National Academy of Sciences report on uranium mining has been released, following similar reports by Chmura Economics, the Danville Regional Foundation, Virginia Beach and others. . . . The reports are long and detailed. Parts are dense and complex. What they are not is boring. These reports deserve to be read, particularly the Academy's sections on the risks to public health and the environment. . . . The serious threats that the Academy outlines deserve to be thoroughly absorbed and extensively debated by the public and knowledgeable contributors before any decisions are made. . . . With respect to the reports themselves, a few observations are appropriate. All such reports are shaped around a set of guiding assumptions. In these cases, those assumptions include:

- The establishment and use by the company of internationally best practices in all areas.

- The use of best technology, whatever the cost.

- The development and establishment and financing of a credible regulatory structure.

- The assumption that there will be no consequential management failures, system or machinery failures, human error, external or unexpected events.

Assumptions are just that, of course. There is no guarantee that best practices will be utilized. There is no certainty that best technologies will be employed, particularly if they prove to be significantly more expensive or constraining. Both the Academy and Chmura make it clear there is no state or federal regulatory scheme or expertise in place remotely sufficient to monitor or regulate this industry.

An even larger concern is the inability to address adequately those events that are unknown and unknowable as to time and circumstance. History teaches that human error and/or system failures are inevitable. The unexpected happens. Design flaws show up after the fact. The Academy cannot predict what or when or how but anyone who has worked in complex industrial operations knows that things will go wrong. Mistakes occur, hurricanes and earthquakes will happen. One only has to read the newspaper to see the catastrophic consequences of the failure of operations that were designed and operated and regulated by the best and the brightest. Three Mile Island, Chernobyl, the Challenger, Fukushima, Union Carbide come quickly to

mind – the question is not if these events will occur, but when and at what cost.

It is notable that even assuming best practices and best technology and extensive regulation, the reports detail serious consequences to human health and the environment that can be expected. It is not difficult to conclude the Academy is sending clear warning signals that mining and processing uranium in a wet climate subject to flooding and extreme weather events in a densely populated area is a very, very bad idea . . .

I close with the quote attributed to Paul Locke, chairman of the Academy committee that produced the report. . . . "The report didn't say you can mitigate all risks. It said you can mitigate some risks".

We are being asked to push through a proposal to lift a thirty-year old ban on an industry with an abysmal environmental record that, under the most optimistic assumptions, experts conclude the most that can be expected is to reduce some of the quite serious risks to the health and welfare of the surrounding community. How on earth can a responsible person take that gamble?

Tom McLaughlin, *Holding Pattern*, S. BOSTON NEWS & RECORD & MECKLENBURG SUN, Jan. 25, 2012, attached to Ohlendorf Decl. as Exhibit 66.

Sen. Ralph Northam

Virginia can't risk, economically, a disaster or an accident with the mining. It would affect our water supplies. As a physician, I know what radiation does, and this is not something that we need to take a chance on.

Northam on the Issues, RICHMOND TIMES-DISPATCH, Aug. 18, 2013, attached to Ohlendorf Decl. as Exhibit 94.

I strongly oppose drilling for oil off the coast of Virginia, and am proud that I helped defeat attempts to lift the moratorium on uranium mining in the Commonwealth. I believe that it is both possible and necessary to achieve economic development that retains and improves the quality of our air, water, and land.

Northam for Lt. Governor, DEMOCRACY FOR AMERICA, attached to Ohlendorf Decl. as Exhibit 83.

Del. Kenneth R. Plum

Virginia has one of the largest deposits of uranium of anyplace in the country in Pittsylvania County in the southern part of the state. The location of Coles Hill Farm where the deposit is centered is in the Roanoke River watershed. There are smaller deposits of uranium in other parts of the state including the Piedmont region. . . . There is no precedent for large-scale uranium mining in the eastern part of the United States where population density and a wet climate increase the chance of radiation contaminating streams and

groundwater and exposure to humans, as the Southern Environmental Law Center pointed out. They go on to state that in the last century Virginia has been hit by at least 78 category-strength hurricanes, and in 2011 there were 37 tornadoes in the state including one within 20 miles of the proposed mining site. The earthquake in Virginia in August, 2011, of 5.18 whose effects were felt all the way to New York had its epicenter just 125 miles from the proposed site.

In addition to the National Academy study, the City of Virginia Beach which gets its drinking water from Lake Gaston downstream of the Coles Hill site funded a study finding that a catastrophic failure of a uranium waste containment structure at the site could contaminate the city's drinking water for as long as two years. . . . The threat to human health outweighs any arguments for lifting the ban. I remain opposed to lifting the ban and will be sensitive to any efforts to circumvent the ban through the regulatory process.

Delegate Kenneth R. Plum, *Uranium Mining in Virginia*, THE CONNECTION, July 10, 2012, attached to Ohlendorf Decl. as Exhibit 33.

Sen. Frank Ruff

[A] quintet of lawmakers – senators Frank Ruff of Clarksville and Don Merricks of Chatham, and delegates Tommy Wright, James Edmunds and Danny Marshall, representing communities from Lunenburg to Danville – wrote a letter to fellow legislators asking

in no uncertain terms that any attempt to lift the moratorium be delayed.

December 28, 2011

Dear Colleague,

I hope each of you had a great Christmas and are looking forward to 2012!

The National Academy of Sciences report on uranium mining has been released, following similar reports by Chmura Economics, the Danville Regional Foundation, Virginia Beach and others. . . . The reports are long and detailed. Parts are dense and complex. What they are not is boring. These reports deserve to be read, particularly the Academy's sections on the risks to public health and the environment. . . . The serious threats that the Academy outlines deserve to be thoroughly absorbed and extensively debated by the public and knowledgeable contributors before any decisions are made. . . . With respect to the reports themselves, a few observations are appropriate. All such reports are shaped around a set of guiding assumptions. In these cases, those assumptions include:

- The establishment and use by the company of internationally best practices in all areas.
- The use of best technology, whatever the cost.
- The development and establishment and financing of a credible regulatory structure.

- The assumption that there will be no consequential management failures, system or machinery failures, human error, external or unexpected events.

Assumptions are just that, of course. There is no guarantee that best practices will be utilized. There is no certainty that best technologies will be employed, particularly if they prove to be significantly more expensive or constraining. Both the Academy and Chmura make it clear there is no state or federal regulatory scheme or expertise in place remotely sufficient to monitor or regulate this industry.

An even larger concern is the inability to address adequately those events that are unknown and unknowable as to time and circumstance. History teaches that human error and/or system failures are inevitable. The unexpected happens. Design flaws show up after the fact. The Academy cannot predict what or when or how but anyone who has worked in complex industrial operations knows that things will go wrong. Mistakes occur, hurricanes and earthquakes will happen. One only has to read the newspaper to see the catastrophic consequences of the failure of operations that were designed and operated and regulated by the best and the brightest. Three Mile Island, Chernobyl, the Challenger, Fukushima, Union Carbide come quickly to mind – the question is not if these events will occur, but when and at what cost.

It is notable that even assuming best practices and best technology and extensive regulation, the reports

detail serious consequences to human health and the environment that can be expected. It is not difficult to conclude the Academy is sending clear warning signals that mining and processing uranium in a wet climate subject to flooding and extreme weather events in a densely populated area is a very, very bad idea . . .

I close with the quote attributed to Paul Locke, chairman of the Academy committee that produced the report. . . . "The report didn't say you can mitigate all risks. It said you can mitigate some risks".

We are being asked to push through a proposal to lift a thirty-year old ban on an industry with an abysmal environmental record that, under the most optimistic assumptions, experts conclude the most that can be expected is to reduce some of the quite serious risks to the health and welfare of the surrounding community. How on earth can a responsible person take that gamble?

Tom McLaughlin, *Holding Pattern*, S. BOSTON NEWS & RECORD & MECKLENBURG SUN, Jan. 25, 2012, attached to Ohlendorf Decl. as Exhibit 66.

Del. Ed Scott

House Bill 2330 establishes a regulatory regime that would allow uranium mining and milling to occur in the Commonwealth of Virginia. . . . Uranium mining and milling has never taken place in the United States east of the Mississippi River, and there are significant

differences in population density, rainfall, and proximity to water bodies compared to sites in Canada or Utah and Arizona where uranium is mined. Of significant concern to me in my review is the potential impact on water quality and availability for farmers in the area of the proposed mine and for thousands of residents of Virginia and North Carolina. In Virginia, impacts on water quality could extend as far as Hampton Roads.

In reviewing this bill, the proponents have recognized the complexity of uranium mining and milling and are agreeing to a regulatory structure that is extensive and expensive. Nonetheless, it is clear that the legislation is unable to create a fail-safe scenario, and that it could be amended in future years to allow mining and milling in other parts of the state. For these and other reasons, I cannot support this legislation.

Del. Ed Scott, *From the Desk of Del. Ed Scott: Water Quality Would Be Affected by Uranium Mining and Milling*, CULPEPER TIMES, attached to Ohlendorf Decl. as Exhibit 84.

Sen. William M. Stanley, Jr.

The possibility of lifting a 30-year ban on uranium mining in Virginia will be a hot topic in the 2013 General Assembly when it convenes Jan. 9, according to local lawmakers. It will be "a nuclear issue, no pun intended," Del. Danny Marshall, R-Danville, told local business leaders and government officials during the Martinsville-Henry County Chamber of Commerce's

annual Pre-legislative Breakfast on Tuesday at the Virginia Museum of Natural History. . . . Three of the four lawmakers who spoke during the breakfast oppose uranium mining. . . . Del. Don Merricks, R-Pittsylvania County, said uranium is found throughout Virginia but studies have shown that the site the company wants to mine is the only potentially viable uranium mining location in the state. "I could live with the mine" itself, Merricks said. "The problem is the stuff that's left" after mining occurs, essentially forever." "I don't think we're ready for uranium mining," added state Sen. Bill Stanley, R-Glade Hill. "The risk is too great."

Uranium Likely to be Hot Topic, THE MARTINSVILLE BULLETIN, Dec. 19, 2012, attached to Ohlendorf Decl. as Exhibit 32.

The 2012 General Assembly might not vote on lifting Virginia's uranium-mining ban after all.

During a forum Wednesday at the Capitol, two state senators talked of a scenario that would put the yes-or-no vote off for a year. . . . "I'm all for that" approach, said Sen. William M. Stanley Jr., R-Franklin County, after the forum. His district includes the site of a proposed Virginia Uranium Inc. mine in Pittsylvania County. Virginia Uranium has been "very professional," Stanley said, but he expressed serious concerns about pollution, as well as a regional stigma, that the mining might cause. Stanley, a lawyer, said he would need to see proof "beyond a reasonable doubt"

that uranium could be mined safely in Virginia before he would vote to lift the 30-year-old ban.

Rex Springston, *Could Vote on Uranium Mining Be Set Back a Year?*, RICHMOND TIMES-DISPATCH, Dec. 8, 2011, attached to Ohlendorf Decl. as Exhibit 85.

For a politician whom local Republicans have privately criticized for being too open to uranium mining, State Sen. Bill Stanley sounded pretty unequivocal in Halifax County on Wednesday.

"I believe that unless it can be shown it is absolutely 100 percent safe," the ban against uranium ban [sic] in Virginia shouldn't be lifted, Stanley said.

And what of the argument that not[illegible]ng, not even taking a stroll, is without risk? "We're talking about radioactive material," he said, "not crossing the street."

Stanley said the region's natural resources are "too precious" to jeopardize, and that he shares the sentiments of other Southside legislators, including Del. James Edmunds of Halifax and State Sen. Frank Ruff of Clarksville, in opposing the proposed extraction of about $8 billion worth of uranium from a Chatham farm.

Eva Cassada, *Stanley Raps Uranium, Road Cost Shifting*, S. BOSTON NEWS & RECORD AND MECKLENBURG SUN, July 14, 2011, attached to Ohlendorf Decl. as Exhibit 86.

A bill that would have required well testing around uranium exploration was tabled last week in the General Assembly just a week after it was introduced by state Sen. Frank Ruff Jr. of Clarksville. . . . Sen. Bill Stanley of Penhook and Del. James Edmunds of Halifax and Del. Thomas Wright of Victoria co-patroned the bill.

Stanley said water quality is a concern of everyone in Southside Virginia.

"Whenever drilling occurs there seems to be an alteration to the quality of water," he said. "Not only are we requiring a testing of that water . . . but also a disclosure of any changes in the water quality to the homeowner."

Stanley said the bill was intended to safeguard the health of Virginians from any adverse effects from exploratory drilling.

"What we're trying to do is protect the water of our people," he said. "It is one of our greatest natural resources. I would think water quality comes before profits. People come before profits."

Tim Davis, *Bill Targets Uranium Well Testing*, CHATHAM STAR TRIBUNE, Jan. 22, 2014, attached to Ohlendorf Decl. as Exhibit 87.

Del. Scott A. Surovell

Things are starting to heat up in Virginia over uranium mining. . . . In theory, I assume almost anything

can be done safely within certain assumptions and with enough money. The problem is that the assumptions are frequently wrong. Humans have frequently proven to be very capable of under-estimating risk until after the facts. . . . One key issue is the safety of storing the mining waste, waste that can get into drinking water and containing elements that have been linked to serious diseases. A critical question for me is what kind of storage is planned, whether than storage is feasible and whether it is safe. Some say the waste must be contained for one thousand years. Uranium itself is radioactive and highly toxic to human and environmental health. . . . Mining a material that could permanently destroy the Occoquan River and impair the drinking water for millions is a non-starter for me. It is unacceptable to me to subject anyone else to that kind of risk.

Scott A Surovell, *Uranium Mining: The Coming Battle in Virginia*, MOUNT VERNON GAZETTE, July 15, 2011, attached to Ohlendorf Decl. as Exhibit 88.

Should Virginia end the uranium mining moratorium?

No, because our water supply from Lake Gaston is too important to the future of Virginia Beach. A potentially compromised water supply would cripple our economy and endanger our health for decades.

Voter Guide 2013 – House of Delegates 85th District, THE VIRGINIAN-PILOT, Oct. 27, 2013, attached to Ohlendorf Decl. as Exhibit 89.

Del. Ron Villanueva

A company wants to mine uranium in south central Virginia. That would require the General Assembly lifting a state ban on the practice. What is your position on uranium mining in Virginia?

I have worked to protect our city's primary water source at Lake Gaston and will continue to oppose efforts to lift the ban on uranium mining.

Election 2011 – Guide to Virginia House & Senate Races, THE VIRGINIAN-PILOT, Nov. 7, 2011, attached to Ohlendorf Decl. as Exhibit 90.

Villanueva opposes lifting the state's ban on uranium mining because of the risk to residents' drinking water.

Davis, Villanueva for the House, THE VIRGINIAN-PILOT, Oct. 16, 2013, attached to Ohlendorf Decl. as Exhibit 91.

Del. Tommy Wright

[A] quintet of lawmakers – senators Frank Ruff of Clarksville and Don Merricks of Chatham, and delegates Tommy Wright, James Edmunds and Danny Marshall, representing communities from Lunenburg to Danville – wrote a letter to fellow legislators asking

in no uncertain terms that any attempt to lift the moratorium be delayed.

December 28, 2011

Dear Colleague,

I hope each of you had a great Christmas and are looking forward to 2012!

The National Academy of Sciences report on uranium mining has been released, following similar reports by Chmura Economics, the Danville Regional Foundation, Virginia Beach and others. . . . The reports are long and detailed. Parts are dense and complex. What they are not boring. These reports deserve to be read, particularly the Academy's sections on the risks to public health and the environment. . . . The serious threats that the Academy outlines deserve to be thoroughly absorbed and extensively debated by the public and knowledgeable contributors before any decisions are made. . . . With respect to the reports themselves, a few observations are appropriate. All such reports are shaped around a set of guiding assumptions. In these cases, those assumptions include:

- The establishment and use by the company of internationally best practices in all areas.
- The use of best technology, whatever the cost.
- The development and establishment and financing of a credible regulatory structure.

- The assumption that there will be no consequential management failures, system or machinery failures, human error, external or unexpected events.

Assumptions are just that, of course. There is no guarantee that best practices will be utilized. There is no certainty that best technologies will be employed, particularly if they prove to be significantly more expensive or constraining. Both the Academy and Chmura make it clear there is no state or federal regulatory scheme or expertise in place remotely sufficient to monitor or regulate this industry.

An even larger concern is the inability to address adequately those events that are unknown and unknowable as to time and circumstance. History teaches that human error and/or system failures are inevitable. The unexpected happens. Design flaws show up after the fact. The Academy cannot predict what or when or how but anyone who has worked in complex industrial operations knows that things will go wrong. Mistakes occur, hurricanes and earthquakes will happen. One only has to read the newspaper to see the catastrophic consequences of the failure of operations that were designed and operated and regulated by the best and the brightest. Three Mile Island, Chernobyl, the Challenger, Fukushima, Union Carbide come quickly to mind – the question is not if these events will occur, but when and at what cost.

It is notable that even assuming best practices and best technology and extensive regulation, the reports

detail serious consequences to human health and the environment that can be expected. It is not difficult to conclude the Academy is sending clear warning signals that mining and processing uranium in a wet climate subject to flooding and extreme weather events in a densely populated area is a very, very bad idea . . .

I close with the quote attributed to Paul Locke, chairman of the Academy committee that produced the report. . . . "The report didn't say you can mitigate all risks. It said you can mitigate some risks".

We are being asked to push through a proposal to lift a thirty-year old ban on an industry with an abysmal environmental record that, under the most optimistic assumptions, experts conclude the most that can be expected is to reduce some of the quite serious risks to the health and welfare of the surrounding community. How on earth can a responsible person take that gamble?

Tom McLaughlin, *Holding Pattern*, S. BOSTON NEWS & RECORD & MECKLENBURG SUN, Jan. 25, 2012, attached to Ohlendorf Decl. as Exhibit 66.

Legislators representing districts that encircle a uranium deposit in Southside Virginia are asking their colleagues to abandon any effort in the 2012 session to end the state's 30-year ban on mining the radioactive ore. . . . "My main concern is I'm opposed to it regardless of the reports," Wright said. "Once our water supply and our lakes are polluted, it's too late."

Southside Legislators: Keep State's Uranium Mining Ban in 2012, RICHMOND TIMES-DISPATCH, Jan. 3, 2012, attached to Ohlendorf Decl. as Exhibit 92.

AN AGREEMENT BETWEEN THE UNITED STATES NUCLEAR REGULATORY COMMISSION AND THE COMMONWEALTH OF VIRGINIA FOR THE DISCONTINUANCE OF CERTAIN COMMISSION REGULATORY AUTHORITY AND RESPONSIBILITY WITHIN THE COMMONWEALTH PURSUANT TO SECTION 274 OF THE ATOMIC ENERGY ACT OF 1954, AS AMENDED

WHEREAS, The United States Nuclear Regulatory Commission (the Commission) is authorized under Section 274 of the Atomic Energy Act of 1954, as amended, 42 U.S.C. §2011 *et seq.* (the Act), to enter into agreements with the Governor of any State/ Commonwealth providing for discontinuance of the regulatory authority of the Commission within the Commonwealth under Chapters 6, 7, and 8, and Section 161 of the Act with respect to byproduct materials as defined in Sections 11e.(1), (3), and (4) of the Act, source materials, and special nuclear materials in quantities not sufficient to form a critical mass; and,

WHEREAS, The Governor of the Commonwealth of Virginia is authorized under the Code of Virginia Section 32.1-235, to enter into this Agreement with the Commission; and,

WHEREAS, The Governor of the Commonwealth of Virginia certified on June 12, 2008, that the Commonwealth of Virginia (the Commonwealth) has a program for the control of radiation hazards adequate to protect public health and safety with respect to the materials within the Commonwealth covered by this Agreement, and that the Commonwealth desires to assume regulatory responsibility for such materials; and,

WHEREAS, The Commission found on February 27, 2009 that the program of the Commonwealth for the regulation of the materials covered by this Agreement is compatible with the Commission's program for the regulation of such materials and is adequate to protect public health and safety; and,

WHEREAS, The Commonwealth and the Commission recognize the desirability and importance of cooperation between the Commission and the Commonwealth in the formulation of standards for protection against hazards of radiation and in assuring that Commonwealth and Commission programs for protection against hazards of radiation will be coordinated and compatible; and,

WHEREAS, The Commission and the Commonwealth recognize the desirability of the reciprocal recognition of licenses, and of the granting of limited exemptions from licensing of those materials subject to this Agreement; and,

WHEREAS, This Agreement is entered into pursuant to the provisions of the Act;

NOW, THEREFORE, It is hereby agreed between the Commission and the Governor of the Commonwealth acting on behalf of the Commonwealth as follows:

ARTICLE I

Subject to the exceptions provided in Articles II, IV, and V, the Commission shall discontinue, as of the effective date of this Agreement, the regulatory authority of the Commission in the Commonwealth under Chapters 6, 7, and 8, and Section 161 of the Act with respect to the following materials:

1. Byproduct materials as defined in Section 11e.(1) of the Act;
2. Byproduct materials as defined in Section 11e.(3) of the Act;
3. Byproduct materials as defined in Section 11e.(4) of the Act;
4. Source materials; and
5. Special nuclear materials in quantities not sufficient to form a critical mass.

ARTICLE II

This Agreement does not provide for discontinuance of any authority and the Commission shall retain authority and responsibility with respect to:

1. The regulation of the construction and operation of any production or utilization facility or any uranium enrichment facility;

2. The regulation of the export from or import into the United States of byproduct, source, or special nuclear material, or of any production or utilization facility;

3. The regulation of the disposal into the ocean or sea of byproduct, source, or special nuclear materials waste as defined in the regulations or orders of the Commission;

4. The regulation of the disposal of such other byproduct, source, or special nuclear materials waste as the Commission from time to time determines by regulation or order should, because of the hazards or potential hazards thereof, not be disposed without a license from the Commission;

5. The evaluation of radiation safety information on sealed sources or devices containing byproduct, source, or special nuclear materials and the registration of the sealed sources or devices for distribution, as provided for in regulations or orders of the Commission;

6. The regulation of byproduct material as defined in Section 11e.(2) of the Act;

7. The regulation of the land disposal of byproduct, source, or special nuclear material waste received from other persons.

ARTICLE III

With the exception of those activities identified in Article 11.1 through 4, this Agreement may be amended, upon application by the Commonwealth and approval by the Commission, to include one or more of the additional activities specified in Article II, whereby the Commonwealth may then exert regulatory authority and responsibility with respect to those activities.

ARTICLE IV

Notwithstanding this Agreement, the Commission may from time to time by rule, regulation, or order, require that the manufacturer, processor, or producer of any equipment, device, commodity, or other product containing source, byproduct, or special nuclear material shall not transfer possession or control of such product except pursuant to a license or an exemption from licensing issued by the Commission.

ARTICLE V

This Agreement shall not affect the authority of the Commission under Subsection 161b or 161i of the Act to issue rules, regulations, or orders to protect the common defense and security, to protect restricted data, or to guard against the loss or diversion of special nuclear material.

ARTICLE VI

The Commission will cooperate with the Commonwealth and other Agreement States in the formulation of standards and regulatory programs of the Commonwealth and the Commission for protection against hazards of radiation and to assure that Commission and Commonwealth programs for protection against hazards of radiation will be coordinated and compatible.

The Commonwealth agrees to cooperate with the Commission and other Agreement States in the formulation of standards and regulatory programs of the Commonwealth and the Commission for protection against hazards of radiation and to assure that the Commonwealth's program will continue to be compatible with the program of the Commission for the regulation of materials covered by this Agreement.

The Commonwealth and the Commission agree to keep each other informed of proposed changes in their respective rules and regulations, and to provide each other the opportunity for early and substantive contribution to the proposed changes.

The Commonwealth and the Commission agree to keep each other informed of events, accidents, and licensee performance that may have generic implication or otherwise be of regulatory interest.

ARTICLE VII

The Commission and the Commonwealth agree that it is desirable to provide reciprocal recognition of licenses

for the materials listed in Article I licensed by the other party or by any other Agreement State.

Accordingly, the Commission and the Commonwealth agree to develop appropriate rules, regulations, and procedures by which such reciprocity will be accorded.

ARTICLE VIII

The Commission, upon its own initiative after reasonable notice and opportunity for hearing to the Commonwealth, or upon request of the Governor of the Commonwealth, may terminate or suspend all or part of this agreement and reassert the licensing and regulatory authority vested in it under the Act if the Commission finds that (1) such termination or suspension is required to protect public health and safety, or (2) the Commonwealth has not complied with one or more of the requirements of Section 274 of the Act.

The Commission may also, pursuant to Section 274j of the Act, temporarily suspend all or part of this agreement if, in the judgment of the Commission, an emergency situation exists requiring immediate action to protect public health and safety and the Commonwealth has failed to take necessary steps. The Commission shall periodically review actions taken by the Commonwealth under this Agreement to ensure compliance with Section 274 of the Act which requires a Commonwealth program to be adequate to protect public health and safety with respect to the materials covered by this Agreement and to be compatible with the Commission's program.

ARTICLE IX

This Agreement shall become effective on March 31, 2009, and shall remain in effect unless and until such time as it is terminated pursuant to Article VIII.

Done at Rockville, MD, in triplicate, this 4th day of March, 2009.

FOR THE UNITED STATES NUCLEAR REGULATORY COMMISSION

/RA/

Dale E. Klein, Chairman

Done at Richmond, Virginia, in triplicate this 18th day of March, 2009.

FOR THE COMMONWEALTH OF VIRGINIA

/RA/

Timothy M. Kaine, Governor

In the Supreme Court of the United States

No. 04-575

DIANNE R. NIELSON, EXECUTIVE DIRECTOR, UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY, ET AL., PETITIONERS

v.

PRIVATE FUEL STORAGE, L.L.C., ET AL.

ON PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE TENTH CIRCUIT

BRIEF FOR THE UNITED STATES AS AMICUS CURIAE

This brief is submitted in response to the Court's order inviting the Solicitor General to express the views of the United States. In the view of the United States, the petition for a writ of certiorari should be denied.

STATEMENT

Following a publicly-announced proposal by respondents, a private consortium of electric utilities and an Indian tribe, to develop a storage facility for spent nuclear fuel on Indian land in the State of Utah, the

State enacted a series of comprehensive and interrelated statutes to ban or limit the storage and transportation of spent nuclear fuel. The Tenth Circuit held that respondents' challenge to those statutes was ripe for review and that most of the statutory provisions were preempted by the Atomic Energy Act of 1954 (AEA), 42 U.S.C. 2011 *et seq.* Those rulings are correct and do not warrant further review by this Court.

1. In the AEA, Congress vested the Nuclear Regulatory Commission (NRC) with "exclusive jurisdiction to license the transfer, delivery, receipt, acquisition, possession and use of nuclear materials. Upon these subjects, no role was left for the states." *Pacific Gas & Elec. Co.* v. *State Energy Res. Conservation & Dev. Comm'n*, 461 U.S. 190, 207 (1983) (citations omitted); *Silkwood* v. *Kerr-McGee Corp.*, 464 U.S. 238, 249-250 (1984). The AEA also preempts state laws that have a purpose to address "protection against radiation hazards," 42 U.S.C. 2021(k), or that have a "direct and substantial effect on the decisions made by those who build or operate nuclear facilities concerning radiological safety levels." *English* v. *General Elec. Co.*, 496 U.S. 72, 85 (1990).

Spent nuclear fuel (SNF), which is highly radioactive, must periodically be removed from commercial nuclear reactors. *Pacific Gas*, 461 U.S. at 195-196. "While the AEA does not specifically refer to the storage or disposal of spent nuclear fuel, it has long been recognized that the AEA confers on the NRC authority to license and regulate the storage and disposal of such fuel." *Bullcreek* v. *NRC*, 359 F.3d 536, 538 (D.C. Cir.

2004). Pursuant to the AEA, the NRC has promulgated regulations providing a comprehensive procedure for the licensing of *temporary* SNF storage installations in order to ensure safe storage of the material. 10 C.F.R. Pt, 72. Congress addressed the *permanent* disposal of SNF (as well as high level radioactive waste) in the Nuclear Waste Policy Act of 1982, 42 U.S.C. 10101 *et seq.*, which provides for the study and eventual development of a permanent geologic repository. *Nuclear Energy Inst., Inc.* v. *EPA*, 373 F.3d 1251, 1258-1262 (D.C. Cir. 2004).

"As of 2003, nuclear reactors in the United States had generated approximately 49,000 metric tons of spent nuclear fuel. Most of this waste is currently stored at reactor sites across the country. * * * By the year 2035, the United States will have produced 105,000 metric tons of nuclear waste – approximately twice the current inventory." *Nuclear Energy Inst.* v. *EPA*, 373 F.3d at 1258 (citations omitted). Facilities for the storage and disposal of SNF are therefore essential to sustain the viability of nuclear power as an energy source. *Pacific Gas*, 461 U.S. at 195196 & n.2.

Since 1997, respondent Private Fuel Storage (PFS) has sought a license from the NRC to build and operate a temporary SNF storage facility on Utah land belonging to respondent the Skull Valley Band of Goshute Indians that is located southeast of Salt Lake City. Pet. App. 4a, 56a. The proposed facility would provide storage capacity for utilities that seek offsite storage of the SNF, until such time as the permanent geologic repository is operational. Expressing specific

concern about the safety of PFS's efforts, Utah passed a series of statutes between 1998 and 2001 that the courts below found were designed to block the proposed facility. *Id.* at 5a, 37a, 47a, 49a-50a, 52a, 56a-57a, 63a. They are summarized briefly below.

a. *Utah's Licensing Regulations.* Part 3 of Utah's Radiation Control Act requires a SNF storage facility that has been licensed by the NRC also to obtain a state license for construction and operation. Utah Code Ann. § 19-3-304. The licensing scheme requires extensive analysis of health and safety issues related to the storage of SNF, *Id.* §§ 19-3-301(2)-(4), 19-3-304 to 19-3-307. The applicant also must provide Utah's Department of Environmental Quality (DEQ) with extensive information related to health and safety aspects of the proposed installation. *Id.* § 19-3-305. The license may not be issued unless DEQ finds the information in the application sufficient to support a variety of specific findings related to the health and safety effects of the facility. *Id.* § 19-3-306. The applicant must satisfy DEQ, for example, that "the wastes will not cause or contribute to an increase in mortality, an increase in illness, or pose a present or potential hazard to human health or the environment." *Id.* § 19-3-306(3). The applicant must also provide information on topics such as groundwater, security plans, quality assurance programs, radiation safety programs, and emergency plans. *Id.* § 19-3-305. All of those areas are regulated by the NRC under 10 C.F.R Part 72 in order to protect human health and safety and the environment.

Part 3 also imposes substantial application and licensing fees. The applicant must pay a non-refundable "initial fee" of $5 million and thereafter "shall * * * pay an additional fee to cover the costs to the state associated with review of the application, including costs to the state and the state's contractors for permitting, technical, administrative, legal, safety, and emergency response reviews, planning, training, infrastructure, and other impact analyses, studies, and services required to evaluate a proposed facility." Utah Code Ann. § 19-3-308(1)(a) and (b). The applicant must also post a bond of "*at least*" $2 billion, or "a greater amount as determined * * * to be necessary to adequately respond to," among other things, "any reasonably foreseeable releases." *Id.* § 19-3-306(10) (emphasis added),

b. *Unfunded liability payment.* Part 3 further requires the operator of an SNF storage facility to pay to the State an amount equal to 75% of the "unfunded potential liability" of the project. Utah Code Ann. § 19-3-319(3)(a). That amount will be determined by DEQ based upon the health and economic costs expected to result from "a reasonably foreseeable accidental release" of SNF. *Id.* § 19-3-301(5)(a). Under those provisions, the DEQ may require payment of an additional amount above the level of insurance that the NRC decides to require in the project license. Pet. App. 44a-45a.

c. *Revocation of limited liability.* Part 3 also revokes statutory and common-law limited liability for

officers, directors, and equity-interest owners of companies operating SNF storage facilities in Utah. Utah Code Ann. § 19-3-318.

d. *County planning requirements and the prohibition on providing municipal services.* Utah's legislation also includes county planning requirements. Pet. App. 36a, 75a. Among other things, county governments must either ban the storage and transportation of SNF, or adopt a comprehensive land use plan containing detailed information regarding the effects of any proposed SNF site upon public health and welfare. Utah Code Ann. § 17-27-301. The plan also must include "specific measures to mitigate the effects of high-level nuclear waste and greater than Class C radioactive waste and guarantee the health and safety of the citizens of the state." *Id.* § 17-27-301(3)(a)(iii). In addition, a county "may not provide, contract to provide, or agree in any manner to provide municipal-type services * * * to any area under consideration for a storage facility or transfer facility for placement of high-level nuclear waste, or greater than Class C radioactive waste." *Id.* § 17-34-1(3).

e. *Transportation provisions.* Utah also enacted provisions related to roads and railroad crossings that may be needed for access to an SNF storage facility in Utah. Utah Code Ann. §§ 544-15, 72-3-301, 72-4-125(4), 78-34-6(5); Pet. App. 8a-9a. One of the provisions divests the county of control over the only road providing access to PFS's proposed SNF storage facility, by designating the road a state highway. Utah Code

Ann. § 72-4-125(4); Pet. App. 8a. Another provision requires that, before a disputed petition for a railroad crossing filed by an entity engaged in SNF storage may be resolved, the Governor and the state legislature must concur in the decision – a requirement that is imposed only on entities engaged in SNF storage. Utah Code Ann. § 54-415(4)(b); Pet. App. 8a.[1]

2. Respondents challenged Utah's statutes in the United States District Court for the District of Utah, arguing, *inter cilia*, that they were preempted by the AEA. In July 2002, the district court issued an order holding that respondents had standing to sue, that their claims were ripe for review, and that the relevant statutes were preempted by the AEA. Pet. App. 54a-77a.

3. The court of appeals affirmed. Pet. App. 1a-53a. The court held that respondents' preemption claims were ripe for review because the question of preemption is predominately legal and therefore fit for judicial resolution. *Id.* at 23a-24a. The court also reasoned that postponing review would impose a substantial hardship on the parties. *Id.* at 24a. On the merits, the court affirmed the district court's holding that the

---

[1] Utah also passed certain provisions that require drug and alcohol testing of employees of companies engaged in SNF storage and authorize litigation to determine water rights in areas under consideration for SNF storage. The district court rejected respondents' Commerce Clause challenge to those provisions, Pet. App. 77a-80a, and that ruling was not appealed. *Id.* at 5a.

challenged statutes regulated in the area of nuclear safety and therefore were preempted. *Id.* at 25a-53a.

DISCUSSION

The court of appeals applied well-established legal principles governing ripeness and preemption to the unique circumstances of this case and concluded that Utah's statutory scheme is preempted. That decision is correct, and does not conflict with any decisions of this Court or any court of appeals. Further review is not warranted.

A. The Ripeness Question Does Not Merit Review

* * *

B. The Court Of Appeals' Application Of Field Preemption Principles To The Circumstances Of This Case Does Not Merit Review

On the merits of the preemption issue, petitioners argue that the court of appeals' decision violates the standards for facial preemption of state law, because respondents allegedly have not shown that the state laws are invalid in *all* of their applications. Pet. 13. Petitioners thus fault the courts below for not determining whether any of the laws could be validly applied to serve interests other than the regulation of radiological safety. Pet. 19-27. But this is not a case where generally applicable safety laws are preempted as applied

to a federally-preempted field, like nuclear safety regulation. Here, the lower courts found that the entirety of the series of interrelated laws at issue here were targeted specifically to regulate the safety aspects of the proposed waste facility and were designed to halt the construction and operation of the proposed facility based on radiation hazard concerns. In light of those factual determinations, the decision to find the entire statutory scheme preempted on its face is correct. Moreover, the case-specific determination of the lower courts does not merit this Court's review and is correct in any event.

1. "[S]tate law is pre-empted where," *inter alia*, "it regulates conduct in a field that Congress intended the Federal Government to occupy exclusively." *English*, 496 U.S. at 79. When Congress so intends, it is said to have preempted the "field," *ibid.*, and thus a state law addressed specifically to the pre-empted field is invalid on its face, *i.e.*, in all of its applications. "When the federal government completely occupies a given field or an identifiable portion of it, * * * the test of [field] pre-emption is whether 'the matter on which the State asserts the right to act is in any way regulated by the Federal Act.'" *Pacific Gas*, 461 U.S. at 212-213 (quoting *Rice* v. *Santa Fe Elevator Corp.*, 331 U.S. 218, 236 (1947)).

Congress has preempted the field of nuclear safety regulation. *Pacific Gas*, 461 U.S. at 212-213; *English*, 496 U.S. at 82. As the Court has explained, "[s]tate safety regulation is not preempted only when it

conflicts with federal law[;] [r]ather, the federal government has occupied the entire field of nuclear safety concerns." *Pacific Gas*, 461 U.S. at 212. Thus, the AEA preempts *any* state legislation that falls within "the field of nuclear safety concerns." *Id.* at 212-213; accord *id.* at 208 ("the safety of nuclear technology [is] the exclusive business of the federal government").

For those reasons, petitioners err in relying on *California Coastal Commission v. Granite Rock Co.*, 480 U.S. 572, 588-589 (1987), in which the Court held that a state permitting scheme was not facially preempted because it was possible that the scheme could be implemented as an exercise of permissible environmental regulation. That decision did not involve any issue of *field* preemption, and thus sheds no light on the question presented in this case. *Id.* at 589 (noting that field preemption was "concededly not the case"). Moreover, the Court emphasized that the allegedly preempting federal regulations specifically contemplated state regulation in the field of environmental protection, which is, of course, a contemplation at odds with any theory of field preemption. *Id.* at 583-589. Here, by contrast, the federal government exclusively regulates the field of nuclear safety and the "licens[ing] [of] the transfer, delivery, receipt, acquisition, possession, and use of nuclear materials." *Pacific Gas*, 461 U.S. at 207.[5]

---

[5] For similar reasons, petitioners err in relying on lower court decisions that declined to find a law preempted in areas of the law other than the field of nuclear safety. Pet. 28-29. None of

2. In this case, the court of appeals carefully reviewed Utah's statutory scheme and determined that it was targeted to and regulated exclusively in the preempted field of nuclear safety. The Tenth Circuit specifically found that Utah's statutes were motivated by concerns about nuclear safety and directly addressed the field of radiation hazards. Pet. App. 37a, 47a, 49a-50a, 52a. Although petitioners argue that Utah's purpose in protecting against radiation hazards does not bring the challenged legislation within the preempted field, Pet. 22-23, there is no basis for this Court to reconsider its statement in *English* that "part of the pre-empted field is defined by reference to the purpose of the state law." *English*, 496 U.S. at 84; see 42 U.S.C. 2021(k) ("Nothing in this section shall be construed to affect the authority of any State or local agency to regulate activities for *purposes* other than protection against radiation hazards.") (emphasis added). Quite to the contrary, the Court subsequently has reaffirmed the rule in *English* that purpose is relevant and has made clear that a State cannot avoid preemption simply by "articulat[ing] a purpose other

---

those decisions involved field preemption. Rather, the area asserted to be preempted contemplated the operation of state law. *Pharmaceutical Research & Mfrs. of Am.* v. *Concannon*, 249 F.3d 66 (1st Cir. 2001), aff'd, 538 U.S. 644 (2003); *Natural Res, Def. Council* v. *Houston*, 146 F.3d 1118 (9th Cir. 1998), cert. denied, 526 U.S. 1111 (1999); *Pentel* v. *City of Mendota Heights*, 13 F.3d 1261 (8th Cir. 1994); *Chemical Specialities Mfrs. Ass'n* v. *Allenby*, 958 F.2d 941 (9th Cir.), cert. denied, 506 U.S. 825 (1992); *Baltimore & Ohio R.R.* v. *Oberly*, 837 F.2d 108 (3d Cir. 1988); *Esso Standard Oil Co.* v. *Department of Consumer Affairs*, 793 F.2d 431 (1st Cir. 1986).

than (or in addition to)" the prohibited purpose. *Gade* v. *National Solid Wastes Mgmt. Ass'n*, 505 U.S. 88, 105 (1992). Thus, when a State enacts legislation based upon "nuclear safety concerns," the laws are preempted without the need to demonstrate their effect. *Pacific Gas*, 461 U.S. at 212-213.

With respect to Utah's licensing scheme, petitioners fault the court of appeals for focusing "only on certain radiological-safety measures" that pervaded Utah's licensing scheme, when the "informational" and fee requirements could conceivably serve some non-safety interests of the State. Pet. 12, 26; accord Pet. 24. Although petitioners apparently concede that "certain" of the State's licensing provisions are preempted, petitioners do not identify which provisions fall within the category of preempted legislation, and petitioners do not identify any precise *non*-safety interest of the State that would be advanced by any particular provision of the licensing scheme. Accordingly, petitioners fail to provide any basis for overturning the lower courts' finding that Utah's scheme is entirely "grounded in [radiological] safety concerns." Pet. App. 52a (quoting *Pacific Gas*, 461 U.S. at 213). Petitioners' argument, moreover, overlooks the fact that Utah's comprehensive licensing scheme *as a whole* was targeted at the preempted field of nuclear safety and attempts to regulate within the NRC's "exclusive jurisdiction to license the * * * delivery, receipt, acquisition, possession and use of nuclear materials." *Pacific Gas*, 461 U.S. at 206. Thus, unlike the state moratorium upheld in

Pacific Gas, in which the State was exercising its traditional authority over utilities to advance the economic interests of ratepayers, *id.* at 207-212, Utah's statutes exclusively target a proposed nuclear waste storage facility, *i.e.*, a facility that generates no power within the State and solely engages in the "delivery, receipt, acquisition, [and] possession * * * of nuclear materials," *id.* at 207. Because Utah's laws erect targeted discriminatory barriers aimed at blocking respondents from engaging in those activities, Utah's statutory scheme "would * * * directly conflict with the NRC's exclusive authority" to license those activities. *Id.* at 212.

The court of appeals correctly concluded that, because Utah's scheme pervasively regulated the field of nuclear safety, the challenged provisions would have "'some direct and substantial effect on the decisions' * * * regarding radiological safety levels of SNF in Utah." *Pacific Gas*, 461 U.S. at 212 (quoting *English*, 496 U.S. at 85). Indeed, even the State's "informational" requirements directly regulate in the area of protection against radiological hazards. Those provisions would require PFS to undertake extensive studies in areas unquestionably within the NRC's authority to regulate, such as the environmental and human health risk and effects of radiation hazards. *E.g.*, Utah Code Ann. § 19-3-305(1), (4), (10), (12), (14);

see also *id.* § 17-27- 301(3)(a)(i) (incorporating informational provisions into county planning requirements).[6]

Petitioners also argue that, under *Silkwood v. Kerr-McGee Corp.*, 464 U.S. 238 (1984), States may require power plants to ensure adequate funding in the event of a nuclear accident, and that the unfunded liability provisions here were improperly invalidated because the State has yet to determine what respondents' potential exposure would be or how respondents would make the required payment of 75% of its potential liability to the State. Pet. 25. *Silkwood* held that common law damages actions based on radiation accidents were not preempted because Congress specifically contemplated the availability of "existing state tort law remedies" in passing the Price Anderson Act, 42 U.S.C. 2210, and because Congress had not provided any federal remedy for persons injured by a radiation accident. *Silkwood*, 464 U.S. at 251-252. Absent those considerations, the Court suggested, the result would likely have been different. *Id.* at 250-251.

This case involves not generally-applicable, preexisting common law remedies expressly preserved by

---

[6] Although some of the other informational provisions in Section 19-3-305 may have a non-safety rationale or serve non-safety interests, the State, as discussed, did not pass those provisions in isolation but as part of a comprehensive scheme that was targeted at preventing the facility from operating based primarily on safety concerns. We do not read the court of appeals' decision as preventing Utah from reenacting narrowly tailored statutes that do not seek to address radiological hazards and do not otherwise undermine the NRC's efforts to regulate nuclear facilities.

federal law, but an extraordinary regulatory bonding requirement that addresses an issue – the financial ability of a storage facility to compensate in the event of damages actions – expressly addressed by the federal scheme. As the court of appeals explained, "[u]nder the federal licensing scheme * * * it is not the states but rather the NRC that is vested with the authority to decide under what conditions to license an SNF storage facility." Pet. App. 45a. Indeed, the NRC in this case has already determined that PFS's $200 million nuclear energy liability policy, which was "the largest one currently available," is sufficient under NRC financial protection requirements. *Id.* at 43a. In addition, the NRC "at this juncture . . . has decided *not* to invoke its discretionary authority" to apply the Price-Anderson Act to SNF storage facilities. *Ibid.*; see 42 U.S.C. 2210(a). The State was not free to impose additional requirements based on its view of the safety risks associated with operation of the facility.

Utah's abolition of traditional limited liability for corporate shareholders suffers similar flaws. Pet. 24-26. The court of appeals explained that state law "removes [the] well established protection" of limited liability and "does so for reasons that the Utah officials concede are related to radiological safety concerns." Pet. App. 47a. Unlike the "existing state tort law remedies" at issue in *Silkwood* (464 U.S. at 252) and in *English*, which applied in a *neutral* manner to all private employers, the State in this case has created a discriminatory rule of liability targeted solely at the nuclear waste industry based on its perceived threat of

radiological hazards. Utah Code Ann. § 19-3-318(2)(b) ("An organization engaging in [nuclear waste] activities has significant potential to affect the health, welfare, or best interests of the state and should not have limited liability for its equity interest holders."). Thus, "the abolition of limited liability attempts a sea change in the law of corporations and is targeted at the nuclear industry only. The statutes do not involve a state tort remedy that existed prior to the enactment of federal legislation regarding nuclear power and that Congress intended to preserve." Pet. App. 47a.

The court of appeals also properly invalidated Utah's attempt to ban counties from providing PFS any municipal services, including "fire protection, garbage disposal, water, electricity, and law enforcement." Pet. App. 36a. Those sweeping provisions are designed to "address matters of radiological safety that are addressed by federal law and that are the exclusive province of the federal government." *Id.* at 37a. Although petitioners correctly observe that the AEA does not require counties to provide municipal services to nuclear waste facilities, Pet. 24-25, the State's "pervasive ban on providing municipal services here * * * targets only those engaged in SNF transportation and storage and does so for safety reasons." Pet. App. 38a The court thus properly concluded that both the "purpose and effect of the state law" was to "use [the State's] authority to regulate law enforcement and other similar matters as a means of regulating radiological hazards." *Id.* at 40a-41a. The same is true of the county siting provisions, which force counties to adopt "specific measures * * *

to guarantee the health and safety of the citizens of the state" against the threats posed by nuclear waste. Utah Code Ann. § 17-27-301(3)(a)(iii).[7]

Petitioners also argue that the State's transportation provisions merely reallocate control over transportation to the facility away from the county and to the Governor and state Legislature. Petitioners accordingly argue that the State should be permitted to apply the provisions before determining that they conflict with federal law. Pet. 26. That contention lacks merit. Petitioners do not dispute that the purpose of the transportation provisions is "to prevent the transportation and storage of SNF in Utah" based on the State's concerns regarding nuclear safety. Pet. App. 49a (citing district court opinion, *id.* at 74a n.10). The evidence included the statement of the state legislator who sponsored the road provisions, explaining that they established a "moat" around the proposed SNF site. *Id.* at 49a. Moreover, the legislative history of the road and railroad crossing provisions confirms that they were based on health and safety concerns. *Id.* at 49a-50a, 74a n.10. The court of appeals also concluded that "by jeopardizing access to the proposed SNF storage facility, the Road Provisions directly and substantially affect decisions regarding radiological safety levels by

[7] Petitioners' attempt to defend the ban on municipal services also does not warrant this Court's review because petitioners represent that those provisions will be rendered inapplicable if the NRC approves a license for PFS. Pet. 6. Thus, petitioners have no interest in having the Court grant plenary review of the Tenth Circuit's invalidation of that provision because it will, by petitioners' own admission, never be implemented by the State.

those operating nuclear facilities," *id.* at 50a, and were preempted for that reason as well. See *id.* at 74a ("This metaphorical 'moat' more likely than not would prevent the construction of PFS's proposed SNF facility. * * * Governor Leavitt has made clear that he will not allow SNF into Utah if possible.").

3. Petitioners also argue that the court of appeals' decision conflicts with *Kerr-McGee Chemical Corp.* v. *City of West Chicago*, 914 F.2d 820 (7th Cir. 1990), which held a state law not preempted when it was not clear that the state law would frustrate NRC's licensing regime. That decision, however, concerned a local erosion control and sedimentation ordinance that, quite unlike the state laws here, was completely "radiation neutral." *Id.* at 827. Here, by contrast, Utah's legislation targets a specific proposed nuclear waste facility with a comprehensive set of restrictive requirements that are aimed at preventing its construction and operation based upon nuclear safety concerns. Utah's legislation is simply not "radiation neutral." *Ibid.*

Petitioners also claim that the court of appeals' decision conflicts with *Citizens for an Orderly Energy Policy, Inc.* v. *County of Suffolk*, 813 F.2d 570 (2d Cir. 1987), which involved a county resolution declining to participate in radiological emergency response planning. The Second Circuit's decision, however, did not even independently discuss the issue of preemption, but merely affirmed the district court's resolution of the issue for "substantially for the reasons set forth in the district court's opinion." *Id.* at 571. In any event, the decision

is readily distinguishable. The district court explained that Congress in passing the AEA "was well aware of the possibility that local governments might refuse" to engage in emergency planning. *Citizens for an Orderly Energy Policy, Inc.* v. *County of Suffolk*, 604 F. Supp. 1084, 1095 (E.D.N.Y. 1985). Here, no such Congressional intent supports the sweeping series of statutes passed by the State to regulate in the area of nuclear safety.

Petitioners' claim that the decision below conflicts with the NRC's views in *Long Island Lighting* Co., 21 N.R.C. 644 (1985), fails for similar reasons. In that decision, the NRC's Atomic Safety and Licensing Board found that state laws prohibiting *the plant itself* from exercising traditional police powers in the event of a nuclear emergency (*e.g.*, by guiding off-site traffic or by directing the public) were not preempted. The NRC found that the state laws, which were neutral and not directed at the nuclear industry, "were enacted * * * for purposes totally unrelated to nuclear safety concerns." *Id.* at 904; *ibid.* ("The apparent purposes * * * have no nexus with regulation of radiological health and safety. They are simply laws regulating local matters such as flow of traffic on public roads."). By contrast, Utah's comprehensive and targeted legislation is directly related to the State's concern about radiological safety levels at the proposed SNF storage facility and would have a direct and substantial effect on the federal health and safety regulatory scheme that protects against radiological hazards. The court of appeals thus

correctly concluded that Utah's unique statutory scheme, viewed as a whole, is preempted.

CONCLUSION

The petition for a writ of certiorari should be denied.

Respectfully submitted.

PAUL D. CLEMENT
Solicitor General
KELLY A. JOHNSON
Acting Assistant Attorney General
THOMAS G. HUNGAR
Deputy Solicitor General
LISA S. BLATT
Assistant to the Solicitor General
GREER S. GOLDMAN
RONALD M. SPRITZER
Attorneys

KAREN D. CYR
General Counsel
JOHN F. CORDES, JR.
Solicitor
U.S. Nuclear Regulatory Commission

SEPTEMBER 2005

RECORD AND BRIEFS

16 1275

No. _____

Supreme Court, U.S.
FILED
APR 21 2017
OFFICE OF THE CLERK

In The
Supreme Court of the United States

VIRGINIA URANIUM, INC., *et al.*,

Petitioners,

v.

JOHN WARREN, *et al.*,

Respondents.

On Petition For Writ Of Certiorari To The United States Court Of Appeals For The Fourth Circuit

PETITION FOR WRIT OF CERTIORARI

CHARLES J. COOPER
Counsel of Record
MICHAEL W. KIRK
JOHN D. OHLENDORF
COOPER & KIRK, PLLC
1523 New Hampshire Avenue, N.W.
Washington, D.C. 20036
(202) 220-9600
ccooper@cooperkirk.com

Counsel for Petitioners

April 21, 2017

In the Supreme Court of the United States

No. 07-1059

UNITED STATES OF AMERICA, PETITIONER

v.

EURODIF, S.A., ET AL.

ON PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

PETITION FOR A WRIT OF CERTIORARI

The Solicitor General, on behalf of the United States of America, respectfully petitions for a writ of certiorari to review the judgment of the United States Court of Appeals for the Federal Circuit in this case.

* * *

STATEMENT

1. The antidumping-duty statute provides a remedy to domestic manufacturing industries harmed by unfair foreign competition, by imposing special duties when "foreign merchandise is being, or is likely to be, sold in the United States at less than its fair value." 19 U.S.C. 1673(1). Antidumping duties are "the amount by which the normal value [*i.e.*, the price when sold 'for consumption in the exporting country'] exceeds the

export price [*i.e.*, the price when sold 'to an unaffiliated purchaser in the United States']" for the merchandise. 19 U.S.C. 1673, 1677a(a), 1677b(a)(1)(B)(i). That difference is known as the "dumping margin." 19 U.S.C. 1677(35)(A).

The imposition of antidumping duties requires two independent determinations. First, the Department of Commerce (Commerce) must determine that the subject merchandise was sold in the United States for less than fair value, or "dumped," during a period of investigation. 19 U.S.C. 1673(1); see 19 U.S.C. 1677(1). Second, the International Trade Commission (ITC) must determine that the domestic industry was materially injured or threatened with material injury by virtue of dumped imports. 19 U.S.C. 1673(2); see 19 U.S.C. 1677(2). If both final determinations are affirmative, Commerce issues an antidumping-duty order directing United States Customs and Border Protection (Customs) to assess duties in an amount equal to the dumping margin for the goods. 19 U.S.C. 1673d(c)(2), 1673e(a)(1).

An interested party may challenge final antidumping-duty determinations before the Court of International Trade (CIT) pursuant to 19 U.S.C. 1516a(a)(2) and 28 U.S.C. 1581(c). Commerce's determinations must be sustained unless "unsupported by substantial evidence on the [administrative] record, or otherwise not in accordance with law." 19 U.S.C. 1516a(b)(1)(B)(i).

2. In 2001, the Department of Commerce initiated an investigation into imports of low-enriched uranium (LEU) from France, as well as from a number of other European countries, based on information that foreign enrichers of uranium were selling LEU at less than fair value and thereby injuring a domestic industry. *Low Enriched Uranium From France, Germany, the Netherlands, and the United Kingdom*, 66 Fed. Reg. 1080 (2001) (notice of initiation of antidumping investigation).

a. LEU is a critical component for the domestic production of nuclear power. It is typically produced by enriching natural uranium, which contains, by weight, approximately 0.711% of the fissionable isotope U^{235}, through a process of isotope separation that increases the concentration of U^{235} to a desired level. Most nuclear utilities require fuel with a U^{235} concentration of between 3% and 5%. Once natural uranium is enriched to create LEU, the finished product is used to produce fuel rods, which are in turn used in nuclear reactors to generate electricity. App., *infra*, 181a-182a; 230a-231a.

Utilities in the United States generally acquire LEU in one of two ways: (1) by paying cash to an enricher for a quantity of LEU at a given U^{235} concentration; or (2) by delivering a quantity of unenriched uranium (known as "feedstock") to an enricher, and paying the enricher for "separative work units" (SWUs), in exchange for a quantity of LEU at a given U^{235} concentration, or "assay." App., *infra*, 182a-184a. SWUs are a "measurement of the amount of energy or

effort required to separate [*i.e.*, increase the concentration of] a given quantity of feed uranium into LEU" at a specified concentration of U^{235}. *Id.* at 183a.

b. Upon commencing its investigation into LEU imports from France, Commerce invited interested parties to comment on the investigation's scope. 66 Fed. Reg. at 1080. Although no party disputed that LEU acquired pursuant to purely cash transactions was potentially subject to antidumping duties, respondent Ad Hoc Utilities Group, a group of U.S. utilities that purchase and consume both imported and domestic LEU, submitted comments contending that imported LEU acquired pursuant to SWU transactions should be excluded from Commerce's antidumping investigation because SWU contracts "constitute the provision of services, not the production or sale of goods subject to the antidumping law." *Low Enriched Uranium from France*, 66 Fed. Reg. 36,744 (2001) (notice of preliminary determination of sales at less than fair value and postponement of final determination). Commerce preliminarily determined that, because "there is little substantive commercial difference" between cash-for-LEU contracts and SWU contracts, LEU acquired pursuant to both types of contracts fell within the scope of its antidumping investigation, but invited further comments on the issue. *Id.* at 36,745-36,746.

In December 2001, Commerce issued its final determination that LEU from France was being sold, or likely to be sold, in the United States at less than fair value. App., *infra*, 220a-262a. Commerce also concluded that all LEU from France is subject to the

antidumping law, "regardless of whether the sale is structured as one of enrichment processing or LEU." *Id.* at 231a. Commerce found that "the enrichment of uranium accounts for approximately 60 percent of the value of the LEU entering the United States," and that "enrichment processing adds substantial value to the natural uranium and creates a new and different article of commerce." *Id.* at 238a-239a. As Commerce explained, "it is the enricher who creates the essential character of the LEU. The enrichment process is not merely a finishing or completion operation, but is instead the most significant manufacturing operation involved in the production of LEU." *Id.* at 251a. Thus, "the enrichment process establishes the essential features of the LEU, creating a clearly distinct product from uranium feedstock." *Ibid.* Finding that "the enrichment process is a major manufacturing operation for the production of LEU" that results in "substantial transformation of the uranium feedstock," Commerce concluded that "the LEU enriched in and exported from Germany, the Netherlands, the United Kingdom and France is a product of those respective countries" subject to the antidumping law. *Id.* at 229a-230a.

Commerce considered and rejected the notion that a utility that acquires LEU pursuant to an SWU contract pays merely for enrichment "services" rather than for the purchase of merchandise. As Commerce explained,

> the unfair trade laws must be applicable to merchandise produced through contract manufacturing, just as they are applicable to

> merchandise manufactured by a single entity. To do otherwise would contravene the intent of Congress by undermining the effectiveness of the [antidumping-duty and other] laws, which are designed to address practices of unfair trade in goods, as well as have profound implications for the international trading system as a whole. To the extent that contract manufacturing can be used to convert trade in goods into trade in so-called "manufacturing services," the fundamental distinctions between goods and services would be eliminated, thereby exposing industries to injury by unfair trade practices without the remedy of the [trade] laws.

App., *infra*, 239a.

Commerce determined that, "no matter what the purchaser chooses to call the transaction, and no matter what terms may be common in the industry, nothing can change the fundamental facts associated with all of these transactions." App., *infra*, 240a. When a "purchaser has contracted out for a major production process that adds significant value to the input and that results in the substantial transformation of the input product into an entirely different manufactured product," Commerce "simply do[es] not consider [such] a major manufacturing process to be a 'service' in the same sense that activities such as accounting, banking, insurance, transportation and legal counsel are considered by the international trading community to be services." *Ibid.* Rather, Commerce has "always considered the output from manufacturing operations that result

in subject merchandise being introduced into the commerce of the United States to be a good." *Ibid.*

Commerce also found "that the overall arrangement, even under the SWU contracts, is an arrangement for the purchase and sale of LEU." App., *infra*, 250a-251a. The clear nature and purpose of the SWU contracts was for "an exact amount of LEU to be delivered [by the enricher to the utility] over the life of the contract." *Id.* at 253a. "And it is this bottom line (*i.e.*, a precise amount of LEU delivered over the life of the contract) that forms the fundamental nature of the agreement between buyer and seller in a SWU contract." *Ibid.*

Morever, nothing in the SWU contracts required or envisioned that the uranium feedstock provided by the utility would itself necessarily be used to produce the LEU delivered to the utility. To the contrary, "enrichers not only have complete control over the enrichment process, but in fact control the level of usage of the natural uranium provided by the utility company." App., *infra*, 252a. Indeed, "an enricher, in fulfillment of a SWU contract, may actually use more or less natural uranium and more or less SWU than is provided for in the contract (and by the utility customer). The enricher has complete control over these important production decisions." *Id.* at 253a.

Accordingly, Commerce concluded that "the contracts designated as SWU contracts are functionally equivalent to those designated as EUP transactions [*i.e.*, traditional contracts for the sale of LEU]," and

that "the overall arrangement under both types of contracts is, in effect, an arrangement for the purchase and sale of LEU." App., *infra*, 254a, 255a. "First, both types of transactions have one fundamental objective – the delivery of LEU at a specific time and location, with a specific product assay, as agreed upon in the contract." *Id.* at 255a. Second, under both types of transactions, "utility customers are not concerned with how LEU is produced or the amount of work expended (SWU) to produce such LEU. Instead, utility customers are interested in obtaining a specific quantity of a standardized product at a specified product assay." *Ibid.* "Further, under both types of contracts, because the LEU is produced at an operating tails assay determined by the enricher, the enricher ultimately determines how much uranium feed is used, the amount of SWU actually applied," and so forth. *Id.* at 256a. Finally, "for both types of contracts ownership of the LEU is only transferred to the utility customer upon delivery of the LEU. Consistent with this provision, for both types of transactions, the enricher incurs the risk of loss with respect to the LEU." *Ibid.*

Commerce rejected respondents' arguments that a regulatory subsection concerning the treatment of subcontractors engaged in so-called "tolling" operations precluded application of the antidumping-duty statute to imported LEU obtained through SWU transactions. See 19 C.F.R. 351.401(h) (providing that Commerce will "not consider a toller or subcontractor to be a manufacturer or producer where the toller or subcontractor does not acquire ownership, and does not control the

relevant sale, of the subject merchandise"). Commerce explained that the tolling provision is not "relevant or applicable in determining whether merchandise entering the United States is subject to" the antidumping law. App. *infra*, 235a. Rather, the tolling provision is part of a regulation that "was intended to 'establish certain general rules that apply to the calculation of export price, constructed export price and normal value,' and not for purposes of determining whether the [antidumping or other trade] laws are applicable" in the first instance. *Ibid.* (quoting 19 C.F.R. 351.401(a) (2000)). Commerce acknowledged that it had previously applied the tolling provision to classify a subsequent sale of the merchandise by a tollee or contractor (*i.e.*, the entity obtaining the tolled merchandise from the toller or subcontractor), rather than the sale made by the toller or subcontractor, as the relevant sale for purposes of calculating the dumping margin, but Commerce concluded that it had "never applied, nor relied upon, section 351.401(h) to exempt merchandise from [antidumping] proceedings." *Ibid.*

c. In February 2002, the ITC determined that an industry in the United States was materially injured by imports of LEU from France at less than fair value. Specifically, the ITC found that such imports had a significant negative impact on respondents USEC Inc., and its subsidiary, United States Enrichment Corporation (collectively USEC), the only domestic enricher of uranium. See United States Int'l Trade Comm'n, *Pub. No. 3486, Low Enriched Uranium from France, Germany, the Netherlands, and the United Kingdom*

(Feb. 2002) <http://hotdocs.usitc.gov/docs/pubs/701_731/pub3486.pdf> (determination and views of the Commission).

Shortly thereafter, Commerce issued an order directing Customs to assess antidumping duties on LEU from France. *Low Enriched Uranium from France*, 67 Fed. Reg. 6680 (2002) (notice of amended final determination of sales at less than fair value and antidumping duty order).

3. Respondent Eurodif S.A., a French enricher of uranium, challenged Commerce's final determination, along with its owner, respondent Compagnie General des Matieres Nucleaires (COGEMA), and COGEMA's U.S. subsidiary, respondent COGEMA, Inc. The CIT remanded to Commerce for further explanation, focusing in particular on Commerce's determination that its tolling regulation does not apply to SWU transactions. App., *infra*, 178a-219a. Although the CIT acknowledged that the tolling regulation does not "exempt merchandise from [antidumping] proceedings," the court concluded that the regulation is nevertheless relevant because "a determination that the enricher provides a tolling service would mean that the price charged by the enricher to the utility for the enrichment cannot form the basis of the export price for the purpose of determining dumping margins." *Id.* at 206a. The court determined that the circumstances of this case resembled previous cases in which Commerce had examined tolling arrangements in which a tollee had provided raw materials to a toller, which in turn produced and delivered a finished product to the tollee. *Id.* at 197a.

Noting that Commerce had determined in those cases that the tolling transaction is not a "relevant sale" for purposes of calculating the dumping margin, *id.* at 190a-192a & n.9, the CIT ruled that Commerce's decision not to apply the tolling regulation in this case "require[d] a more persuasive explanation than provided in the agency's determinations." *Id.* at 207a.

In its determination on remand, App., *infra*, 69a-177a, Commerce provided further explanation of its determination that the tolling regulation does not apply to SWU transactions. Based on the "totality of the circumstances," Commerce concluded that the tolling regulation did not apply for several reasons, including that "the enrichers make the only relevant sales that can be used for purposes of establishing U.S. price and normal value." *Id.* at 126a. Commerce found that the SWU transactions were "relevant sales" because, among other things, "these sales represent the transfer of ownership in the complete LEU product for consideration." *Id.* at 131a.

Specifically, "[b]ased upon the contracts and other evidence of record," App., *infra*, 131a, Commerce found that "[t]he enrichers transfer ownership of, and title to, the LEU to the utilities upon delivery of the merchandise for consideration." *Ibid.* By contrast, "utility customers hold title to the natural uranium feedstock that they provide to the enrichers," and "[t]he contracts state that the enrichers transfer title to the LEU to the utilities upon production *and* delivery of the LEU." *Id.* at 132a. Thus, it is only at the time of delivery that "title to the LEU is transferred to the customer, and [the

customer's] title to the feed material is extinguished." *Ibid.* Moreover, Commerce explained, because the enricher treats the natural uranium feedstock as fungible, prior to delivery of the LEU "[t]he customer does not hold title to the LEU, nor does she hold title to the feed material contained within the recently produced LEU." *Id.* at 133a. As Commerce found, "LEU produced by the enricher cannot be identified as having been derived from the feedstock provided by any particular customer." *Ibid.*

Indeed, "LEU delivered to a utility customer by an enricher under an enrichment contract may be produced *before* any natural uranium supplied by that customer could have been part of the production process for that LEU." App., *infra*, 133a (emphasis added). Accordingly, Commerce found that the operation of the SWU contract scheme "mak[es] it impossible to conclude that the LEU produced and delivered by the enricher is in any way derived from the uranium supplied by the customer." *Ibid.*

Based on those findings, Commerce concluded that, "between the time in which the LEU is produced and the time in which it is delivered as specified under the contract, the enricher holds title and holds ownership in the complete LEU product." App., *infra*, 133a. Commerce further found "that enrichers make a * * * sale when they transfer ownership of the complete LEU to the utilities through the delivery of such merchandise for consideration." *Id.* at 134a (citing *NSK Ltd.* v. *United States*, 115 F.3d 965, 973 (Fed. Cir. 1997)); see *NSK Ltd.*, 115 F.3d at 975.

4. The CIT reversed. App., *infra*, 36a-68a. The court rejected Commerce's conclusion that enrichers obtain ownership of LEU enriched under SWU contracts, finding that "although the enrichers obtain the right to use and possess the feedstock, and assume the risk of loss or damage, there is no evidence that they ever obtain ownership of either the feed uranium or the final enriched product." *Id.* at 44a. The court determined that the transfer of LEU from the enricher to the utility therefore cannot constitute a "sale," *id.* at 45a (citing *NSK Ltd.*, 115 F.3d at 975), and that Commerce's contrary determination was neither supported by substantial evidence nor in accordance with law, *id.* at 46a. The court certified the question for interlocutory appeal under 28 U.S.C. 1292(d). Slip op. No. 03-170 (Dec. 22, 2003).[1]

5. a. The court of appeals affirmed the CIT. App., *infra*, 8a-28a. The court concluded that SWU contracts are contracts for the provision of services, not for the sale of goods, and that LEU that enters the United States pursuant to SWU contracts therefore is not "merchandise * * * sold" within the meaning of 19 U.S.C. 1673(1). App. *infra*, 17-24a. The court agreed with the CIT's conclusion that "the SWU contracts in this case do not evidence any intention by the parties to vest the enrichers with ownership rights in the

---

[1] The CIT also rejected Commerce's determination that the tolling provision is altogether inapplicable in this case. App., *infra*, 50a-56a. The CIT held, however, that Commerce acted reasonably in declining to apply the tolling provision in determining the members of the affected domestic industry. *Id.* at 56a-59a.

delivered unenriched uranium or the finished LEU," and also its conclusion that the SWU transactions therefore cannot be said to constitute "sales" of merchandise for purposes of the antidumping statute. *Id.* at 20a.

The court of appeals found further support for its conclusion in its earlier decision in *Florida Power & Light Co.* v. *United States*, 307 F.3d 1364 (Fed. Cir. 2002), in which it had held that, although SWU contracts do not clearly constitute either contracts for services or for goods as they do "not fall neatly" into either category, they are "best characterized" as a service contract for purposes of the Contract Disputes Act of 1978, 41 U.S.C. 601 *et seq.* App., *infra*, 20a-24a; see *Florida Power & Light Co.*, 307 F.3d at 1373.[2]

b. While the government's petition for rehearing was pending, this Court issued its decision in *National Cable & Telecommunications Ass'n* v. *Brand X Internet Services*, 545 U.S. 967 (2005), which held that "[a] court's prior judicial construction of a statute trumps an agency construction otherwise entitled to * * * deference only if the prior court decision holds that its construction follows from the unambiguous terms of the statute and thus leaves no room for agency discretion." *Id.* at 982. The government brought the decision to the Court's attention, pointing out that the court of appeals' reliance on *Florida Power & Light Co.* was inconsistent with the principles of agency deference that

---

[2] The court of appeals did not consider the applicability of the tolling provision. App., *infra*, 9a, 27a.

the Court reaffirmed in *Brand X*. In an order denying rehearing, App., *infra*, 29a-35a, the court rejected that argument, stating that it had not considered itself "bound" by *Florida Power*, but had treated it only as "'persuasive' authority" for the proposition that SWU contracts are contracts for services, not goods. *Id.* at 32a. The court further held that Commerce's construction of 19 U.S.C. 1673 did not, in any event, warrant deference under *Chevron U.S.A. Inc.* v. *NRDC*, 467 U.S. 837 (1984), because "the antidumping duty statute unambiguously applies to the sale of goods and not services." App., *infra*, 33a.

Notwithstanding its previous acknowledgment that SWU contracts do "not fall neatly" into either the goods or services category, *Florida Power & Light Co.*, 307 F.3d at 1373, the court of appeals also found that "it is clear that [the SWU] contracts are contracts for services and not goods." App., *infra*, 33a. The court based that conclusion on "the critical importance" of what it characterized as "the indisputable fact that, pursuant to the contracts at issue in this case, enrichers never obtain ownership of either the feed (unenriched) uranium during enrichment or the final low enriched uranium ('LEU') product." *Ibid.* In the court's view, "the inescapable conclusion flowing from this circumstance is that the enrichers do not 'sell' LEU to utilities pursuant to the SWU contracts at issue in this case." *Id.* at 33a-34a.

6. On remand, the CIT determined that the court of appeals' decision required Commerce to rewrite the scope of its antidumping order with respect to future

LEU entries, as well as to exclude past LEU entries covered by SWU contracts from its duty calculations. 431 F. Supp. 2d 1351, 1354-1355 (2006); 442 F. Supp. 2d 1367 (2006). The government appealed the CIT's conclusion with respect to future entries of LEU. The court of appeals dismissed that appeal as non-justiciable. App., *infra*, 1a-7a.

REASONS FOR GRANTING THE PETITION

The Federal Circuit has incorrectly overridden the views of the expert agency responsible for administering and interpreting the antidumping-duty statute. By failing to defer to Commerce's reasonable statutory interpretation, the court has opened a potentially gaping loophole in the Nation's trade laws that will encourage domestic buyers and foreign producers to structure their transactions as contracts for "services" in which title to the finished merchandise is not formally vested in foreign producers before passing to the domestic buyer. The Federal Circuit erred in fashioning an irrational exception to the coverage of the antidumping-duty law that permits industries to evade antidumping duties based on the form, rather than the substance, of their transactions. The court's construction of the statute is not compelled by its text and serves only to undermine the statutory scheme that Congress designed to protect domestic industry from unfair foreign competition.

The importance of the decision below extends far beyond the economic realm. By narrowing the effective

reach of the antidumping law, the court's decision jeopardizes the full implementation of an agreement between the United States and the Russian Federation, under which Russia has undertaken to supply the United States with LEU produced by diluting highly enriched uranium from nuclear weapons. The successful implementation of that agreement, which is a key element of this Nation's nuclear nonproliferation policy, depends on Commerce's ability to apply the antidumping-duty laws to restrict imports of less-expensive LEU produced through commercial enrichment processes in Russia.

The decision below also endangers the financial viability of the only domestic uranium enricher, USEC, which is the sole source of supply for certain types of nuclear fuel used for military purposes. USEC's continued survival is important to ensure the reliability of the Nation's nuclear arsenal and the availability of fuel for nuclear-power military vessels, as well as to ensure national energy security. This Court's review is therefore warranted.

* * *

III. THE DECISION BELOW THREATENS U.S. FOREIGN POLICY AND NATIONAL SECURITY INTERESTS

The consequences of the decision below go far beyond the substantial adverse effect on the effective administration of the trade laws. The decision below, in a truly unprecedented manner for a trade case, threatens to undermine U.S. foreign policy and national

security interests in the remarkably sensitive context of nuclear fuel, nonproliferation, and ensuring domestic supplies for nuclear weaponry. Because enriched uranium is essential to nuclear power, the government's ability to regulate its entry into the United States is a matter of great significance. The court's decision in this case puts at risk full implementation of an international nuclear nonproliferation agreement and the continued survival of the only domestic source of nuclear materials for military uses. Those consequences further justify this Court's intervention.[4]

1. First, the decision below threatens to undermine the United States' Highly Enriched Uranium (HEU) Agreement with the Russian Federation, a key element of U.S. nuclear nonproliferation policy, which is dependent on the proper application of antidumping law to imported LEU.

Under the HEU Agreement, signed in 1993, the Russian Federation has undertaken by 2013 to convert 500 metric tons of weapons-grade HEU – enough for approximately 20,000 Russian nuclear warheads – into LEU for use in generating electricity in the United States. In return, the United States has agreed to

---

[4] The government notes that bills are currently pending in committees in Congress that would explicitly provide that "any contract or transaction for the production of low-enriched uranium" qualifies as "a sale of foreign merchandise" under the antidumping-duty statute, 19 U.S.C. 1673. See H.R. 4929, 110th Cong., 1st Sess. (2007); S. 2531, 110th Cong., 1st Sess. (2007). There is no guarantee, however, that the legislation will be enacted, much less that it will be enacted in its present form.

purchase LEU downblended from 30 metric tons of weapons-grade HEU each year through 2013. See Agreement Concerning the Disposition of Highly Enriched Uranium Extracted from Nuclear Weapons, U.S.-Russ., Feb. 18, 1993, State Dep't No. 93-59, 1993 WL 152921. USEC, the sole domestic enricher of LEU, serves as the U.S. Executive Agent under the agreement. In that capacity, USEC purchases the downblended LEU, resells the material to U.S. utilities, and uses the proceeds to pay the Russian Government.

The foundation for the HEU Agreement was laid in 1992, when Commerce agreed to suspend an antidumping investigation into Russian uranium that had been prompted by a surge of low-price Russian uranium imports into the United States. See *Uranium from Kazakhstan, Kyrgyzstan, Russia, Tajikistan, Ukraine, and Uzbekistan*, 57 Fed. Reg. 49,235 (1992) (notice of suspension of investigations and amendment of preliminary determinations). The antidumping suspension agreement restricts imports of Russian LEU produced through commercial enrichment processes, but exempts from those restrictions "any or all" HEU, and LEU produced through a process of downblending HEU "resulting from the dismantlement of nuclear weapons." *Id.* at 49,237.[5] The suspension agreement,

---

[5] The Governments of the United States and Russia signed an amendment to the suspension agreement on uranium from Russia on February 1, 2008. See *Amendment to the Agreement Suspending the Antidumping Investigation on Uranium from the Russian Federation*, 73 Fed. Reg. 7705 (2008). The amendment adjusts the limits on Russian exports of commercial LEU to the United States. *Id.* at 7706.

which was negotiated in parallel with the HEU Agreement, thus provides an important incentive for the Russian Federation to produce LEU for export through a process of downblending, rather than through the less costly (and hence more profitable) method of enriching natural uranium through commercial processes.

The court of appeals' decision critically undermines the effectiveness of the antidumping suspension agreement as it affects enriched (as opposed to downblended) LEU, and thereby threatens the effectiveness of the HEU Agreement as well. Suspension agreements apply only to merchandise subject to the antidumping-duty law. See 19 U.S.C. 1673c(*l*) (limiting scope of suspension agreements with nonmarket economy countries to "merchandise under [antidumping] investigation"); see also 19 U.S.C. 1673c(c) (generally limiting scope of suspension agreements to "subject merchandise"); 19 U.S.C. 1677(25) (defining "subject merchandise" as, *inter alia*, "the class or kind of merchandise that is within the scope of an [antidumping] investigation). If LEU purchased pursuant to SWU contracts is not subject to the antidumping-duty law, as the Federal Circuit has held, Russia will have a strong economic incentive to avoid application of the antidumping suspension agreement by structuring transactions as the French enrichers and utilities did in this case.

If such an effort is successful, Russia would have far less incentive to continue to produce LEU via the relatively more expensive process of dismantling

nuclear warheads, rather than producing LEU by commercial enrichment. See Memorandum from Joseph A. Spetrini, Deputy Assistant Secretary for Policy and Negotiations, to David M. Spooner, Assistant Secretary for Import Administration, Issues and Decision Memorandum for the Sunset Review of the Agreement Suspending the Antidumping Investigation on Uranium from the Russian Federation 6 (June 6, 2006) <ia.ita.doc.gov/frn/summary/RUSSIA/E6-8758-1.pdf> (Sunset Review Memorandum); *Final Results of Five-Year Sunset Review of Suspended Antidumping Duty Investigation on Uranium from the Russian Federation*, 71 Fed. Reg. 32,517 (2006). Russia is the largest enricher of uranium in the world, and enriching natural uranium for commercial LEU sales is the most economically viable use of its vast enrichment capacity. Sunset Review Memorandum 6. Today Russia has substantially more enrichment capacity than necessary to supply its own domestic market, and other markets – notably in the European Union and Asia – have imposed restrictions on imports of Russian uranium products. *Ibid.* Absent full implementation of the antidumping suspension agreement, Russia would have a strong financial incentive to direct its enrichment capacity toward commercial enrichment of natural uranium for the U.S. market, rather than down-blending weapons-grade uranium, for the same market at higher cost. *Ibid.* It might terminate the HEU Agreement after one year's notice, as permitted under the Agreement, or it might halt or slow its performance under the Agreement, to the detriment of U.S. foreign policy and national security interests.

Even if Russia continued full performance under the HEU Agreement, the Agreement might still be threatened by a failure fully to implement the antidumping suspension agreement. Competition from commercially enriched Russian LEU would threaten USEC's ability to resell some or all of the downblended LEU that it is committed to purchase in its capacity as the U.S. Executive Agent under the HEU Agreement, which would, in turn, threaten USEC's ability to continue to raise the revenue necessary to purchase that material from Russia.

In short, successful implementation of the HEU Agreement depends in significant part on the government's ability to use the antidumping laws to regulate the entry of LEU from foreign sources, so that downblending of weapons-grade HEU remains commercially feasible. The decision below effectively obliterates a crucial part of the framework that underlies the HEU Agreement, and thus stands as an obstacle to accomplishing the Agreement's objective of converting Russian nuclear warheads to peaceful uses.

2. Second, the court of appeals' decision threatens the ongoing economic viability of USEC, the only domestic entity that enriches uranium. Because other countries generally require that their nuclear products and technology be used only for peaceful purposes, USEC operates the only facility in the world that can produce nuclear materials for U.S. military use. Its continued survival is, accordingly, a matter of compelling importance to U.S. national security interests.

The government relies on USEC to supply enriched uranium for a variety of military purposes. USEC is the sole supplier of the LEU used to fuel the government-owned nuclear reactors that produce tritium, a radioactive isotope necessary to maintain the U.S. nuclear arsenal. USEC also supplies the enriched uranium required for the operation of the space nuclear program. In addition, the U.S. Navy's nuclear-powered submarines and aircraft carriers are fueled with HEU and rely upon its availability. When the current supply of that material is depleted, the Navy will require a sustainable domestic provider of HEU. Today, USEC is the only domestic provider of enrichment services.

USEC currently operates only one facility in the United States that can be used to produce enriched uranium for military purposes. That facility, which is located in Paducah, Kentucky, enriches uranium through gaseous diffusion, a process that is commercially obsolete at current prices. USEC is presently planning to replace the Paducah facility with a new centrifuge facility to produce LEU in Piketon, Ohio, for which USEC must raise significant capital in commercial markets. It will be difficult or impossible for USEC to raise that capital if investors do not view the U.S. market for enriched uranium as stable and profitable. If left unreviewed, the decision below would destabilize that market, threatening both the economic viability of the facility that USEC already operates as well as its plans to replace that facility with updated and more cost-effective technology. As a result, the decision

below, far from a garden-variety trade case, threatens the United States' ability to produce materials critical to military operations.

3. Finally, by radically limiting domestic industry's protection from imports of dumped enriched uranium, the decision below threatens to increase the United States' dependence on foreign energy sources. If Russia enjoys unfettered access to the market for LEU in the United States, its vast capacity for enrichment will weaken financial support for expansion of domestic enrichment capacity and leave the Russian Federation as the predominant supplier of enriched uranium for domestic electricity generation.

CONCLUSION

The petition for a writ of certiorari should be granted.

Respectfully submitted.

PAUL D. CLEMENT
Solicitor General

JEFFREY S. BUCHOLTZ
Acting Assistant Attorney General

THOMAS G. HUNGAR
Deputy Solicitor General

LEONDRA R. KRUGER
Assistant to the Solicitor General

JOHN B. BELLINGER, III
Legal Adviser
Department of State
Washington, D.C. 20520

WILLIAM J. HAYNES II
General Counsel
Department of Defense
Washington, D.C. 20301

JOHN J. SULLIVAN
General Counsel

JOHN D. MCINERNEY
Chief Counsel for Import Administration

QUENTIN M. BAIRD
Attorney
Department of Commerce
Washington, D.C. 20230

DAVID R. HILL
General Counsel
Department of Energy
Washington, D.C. 20585

JEANNE E. DAVIDSON
PATRICIA M. MCCARTHY
STEPHEN C. TOSINI
Attorneys

FEBRUARY 2008

[LOGO] *Independent Statistics & Analysis*
U.S. Energy Information Administration

2015 Uranium Marketing Annual Report

May 2016

Independent Statistics & Analysis
www.eia.gov

U.S. Department of Energy
Washington, DC 20585

Uranium purchases and prices

Owners and operators of U.S. civilian nuclear power reactors ("civilian owner/operators" or "COOs") purchased a total of 57 million pounds U_3O_8e (equivalent[1]) of deliveries from U.S. suppliers and foreign suppliers during 2015, at a weighted-average price of $44.13 per pound U_3O_8e. The 2015 total of 57 million pounds U_3O_8e increased 6% compared with the 2014 total of 53 million pounds U_3O_8e. The 2015 weighted-average price of $44.13 per pound U_3O_8e decreased 4% compared with the 2014 weighted-average price of $46.16 per pound U_3O_8e.

Six percent of the 57 million pounds U_3O_8e delivered in 2015 was U.S.-origin uranium at a weighted-average

[1] Uranium quantities are expressed in the unit of measure U_3O_8e (equivalent). U_3O_8e is uranium oxide (or uranium concentrate) and the equivalent uranium-component of uranium hexafluoride (UF_6) and enriched uranium.

price of $43.86 per pound. Foreign-origin uranium accounted for the remaining 94% of deliveries at a weighted-average price of $44.14 per pound. Uranium originating in Kazakhstan, Russia and Uzbekistan accounted for 37% of the 57 million pounds. Australian-origin and Canadian-origin uranium together accounted for 47%. The remaining 10% originated from Bulgaria, Czech Republic, Malawi, Namibia, Niger, and South Africa.

COOs purchased uranium of three material types for 2015 deliveries from 36 sellers, two more than in 2014. Uranium concentrate was 55% of the 57 million pounds U_3O_8e delivered in 2015. Natural UF_6 was 30% and enriched UF_6 was 15%. During 2015, 21% of the uranium was purchased under spot contracts at a weighted-average price of $36.80 per pound. The remaining 79% was purchased under long-term contracts at a weighted-average price of $46.04 per pound. Spot contracts are contracts with a onetime uranium delivery (usually) for the entire contract and the delivery is to occur within one year of contract execution (signed date). Long-term contracts are contracts with one or more uranium deliveries to occur after a year following the contract execution (signed date) and as such may reflect some agreements of short and medium terms as well as longer term.

* * *

Table 3. Uranium purchased by owners and operators of U.S. civilian nuclear power reactors by origin country and delivery year, 2011-15

thousand pounds U_3O_8 equivalent; dollars per pound U_3O_8 equivalent

	Deliveries in 2011		Deliveries in 2012		Deliveries in 2013		Deliveries in 2014		Deliveries in 2015	
Origin country	Purchases	Weighted-average price	Purchases	Weighted-average price	Purchases	Weighted-average price	Purchases	Weighted-average price	Purchases	Weighted-average price
Australia	6,001	57.47	6,724	51.17	10,741	49.92	10,511	48.03	9,678	44.16
Brazil	W	W	W	W	W	W	W	W	0	–
Bulgaria	0	–	0	–	0	–	0	–	W	W
Canada	10,832	56.08	13,584	56.75	7,808	52.61	9,789	45.87	16,876	45.84
China	W	W	W	W	W	W	W	W	0	–
Czech Republic	0	–	0	–	W	W	W	W	W	W
Germany	0	–	0	–	W	W	0	–	0	–
Hungary	0	–	0	–	W	W	0	–	0	–
Kazakhstan	9,728	53.71	6,234	51.69	6,454	46.73	12,032	44.47	10,723	42.82
Malawi	780	65.44	W	W	1,277	59.89	1,514	44.94	W	W
Namibia	6,199	56.74	5,986	54.56	5,677	49.78	4,603	45.54	3,456	48.57
Niger	1,744	54.38	2,133	50.45	1,666	51.26	1,316	43.86	922	39.74
Portugal	0	–	0	–	W	W	0	–	0	–
Russia	10,199	56.57	7,643	54.40	10,580	53.73	6,859	45.65	9,063	40.87
South Africa	1,524	53.62	1,243	56.45	186	46.72	938	43.71	826	37.64
Ukraine	W	W	W	W	0	–	W	W	0	–
United Kingdom	0	–	0	–	0	–	W	W	0	–
Uzbekistan	1,808	55.99	2,576	52.80	3,064	50.02	1,779	46.84	1,040	47.90
unknown	0	–	0	–	W	W	W	W	W	W
Foreign Total	**49,626**	**55.98**	**47,713**	**54.07**	**47,919**	**51.13**	**50,033**	**46.03**	**53,106**	**44.14**
United States	5,205	52.12	9,808	59.44	9,484	56.37	3,316	48.11	3,419	43.86
Total Purchases	**54,831**	**55.64**	**57,520**	**54.99**	**57,403**	**51.99**	**53,349**	**46.16**	**56,524**	**44.13**

W = Data withheld to avoid disclosure of individual data. – = Not applicable.

Notes: Totals may not equal sum of components because of independent rounding. Weighted-average prices are not adjusted for inflation.

Source: U.S. Energy Information Administration: Form EIA-858 "Uranium Marketing Annual Survey" (2011-15).

[LOGO] **U.S. DEPARTMENT OF ENERGY**

Excess Uranium Inventory Management Plan

Report to Congress
July 2013

United States Department of Energy
Washington, DC 20585

I. LEGISLATIVE LANGUAGE

This report responds to legislative language set forth in Consolidated Appropriations Act, 2012 (Public Law 112-74, div. B, tit. III), Section 312 (c), wherein it is stated:

> *"(c) Not later than June 30, 2012, the Secretary shall submit to the House and Senate Committees on Appropriations a revised excess uranium inventory management plan for fiscal years 2013 through 2018."*

II. INTRODUCTION

Uranium Inventory Management Principles and Objectives

This Excess Uranium Inventory Management Plan (2013 Plan) seeks to provide the public and interested stakeholders more specific information and enhanced transparency regarding Department of Energy (DOE) management of potentially marketable uranium inventories. The Office of Nuclear Energy, the Office of Environmental Management (EM), and the National Nuclear Security Administration (NNSA) are the organizations within DOE that coordinate the management of these inventories, which exist in the forms of highly enriched uranium (HEU), low-enriched uranium (LEU), natural uranium (NU) in the form of uranium hexafluoride (UF_6), and depleted uranium hexafluoride (DUF_6). The Department has prepared the 2013 Plan to replace the Department of Energy Excess Uranium Inventory Management Plan (DOE 2008; hereinafter referred to as the 2008 Plan) and to reflect updated and evolving information, programs, and mission needs since the 2008 Plan was issued. The 2013 Plan identifies uranium inventories that have entered the uranium market since the 2008 Plan and those anticipated to potentially enter the market through the end of Calendar Year (CY) 2018. Among the changes described in the 2013 Plan are additions to and deletions from the inventory and changes to DOE's uranium management strategy.

On December 16, 2008, the Department released the 2008 Plan, providing information about transactions planned or under consideration by the Department for the disposition of its excess uranium consistent. The Department is committed to managing excess inventories in a manner that:

1. Is consistent with all applicable legal requirements,

2. Maintains sufficient uranium inventories to meet the current and reasonably foreseeable needs of DOE missions,

3. Undertakes transactions involving non-U.S. Government entities in a transparent and competitive manner, and

4. Is consistent with and supportive of the maintenance of a strong domestic uranium industry.

The 2008 Plan included reference to a Departmental guideline that, as a general matter, the introduction into the domestic market of uranium from Departmental inventories in amounts that do not exceed 10 percent of the total annual fuel requirements of all nuclear power plants should not have an adverse material impact on the domestic uranium mining, conversion, or enrichment industry.[2] The 2008 Plan noted that the Department might introduce into the domestic market, in any given year, less than that amount, or, in some years for certain special purposes such as

---

[2] Even with this guideline, any transfer subject to section 3112(d) of the USEC Privatization Act still underwent a market impact analysis to ensure there was no adverse material impact.

the provision of initial core loads for new reactors, more than that amount. Based on experience gained since issuance of the 2008 Plan[3], including in particular the market impact analysis that supported the May 15, 2012 Secretarial Determination (the May 2012 Determination), the Department has determined that it can meet its statutory and policy objectives in regard to DOE uranium sales or transfers without an established guideline. In addition, as discussed below, decisions to introduce uranium into the market pursuant to section 3112(d) must be reviewed every two years. Accordingly, the 10 percent guideline will no longer be used.

The Department remains committed to the maintenance of a strong domestic uranium industry and will conduct uranium transactions, where applicable, in accordance with Section 3112(d) of the United States Enrichment Corporation (USEC) Privatization Act (Public Law 104-134), which states that sales or transfers of natural or LEU from DOE's stockpile must meet the following criteria:

---

[3] Subsequent to issuance of the 2008 Plan, in 2009 the Department issued its "Finding of No Significant Impact: Disposition of DOE Excess Depleted Uranium, Natural Uranium, and Low Enriched Uranium." 74 Fed. Reg. 31420 (July 1, 2009); DOE/EA-1607. In the mitigation action plan (MAP) of that finding, DOE determined that any potentially significant impacts on the domestic uranium industry from the sale or transfer of depleted uranium could [sic] addressed by conducting a market impact analysis similar to those conducted in accordance with section 3112(d) and, if necessary, adjusting sales or transfers to avoid or mitigate any potentially significant impacts.

1. The President determines the material is not necessary for national security needs;

2. The Secretary determines that the sale of the material will not have an adverse material impact on the domestic uranium mining, conversion, or enrichment industry, taking into account the sales of uranium under the Russian HEU Agreement, and the Suspension Agreement; and

3. The price paid to the Secretary will not be less than the fair market value of the material.

Section 3112(d) of the USEC Privatization Act only covers transfers of natural or enriched uranium, but the Department also considers and analyzes the potential market impacts of transactions involving DUF_6 and structures those transactions to mitigate any significant impact on the domestic uranium mining, conversion, or enrichment industry.

Further, Section 312(a) of the Consolidated Appropriations Act, 2012 provides that all determinations pursuant to Section 3112(d)(2)(B) are only valid for two calendar years. Thus, the Department will revisit its analyses of market impacts and issue new Determinations every two years for transfers covered under Section 3112(d) if it seeks to continue the covered transactions. As in the past, the Department's analysis of potential market impacts under Section 3112(d) will account for all Departmental uranium sales or transfers into the market in the relevant period – including any that may fall outside of Section 3112(d) – to determine potential market impacts. Taken together, these

legal requirements and actions by the Department protect the interests of the domestic uranium industry in an effective and reasonable manner while providing the Department with the necessary flexibility to meet its programmatic needs and responsibilities. Lastly, any updates to the 2013 Plan, May 2012 Determination, or any subsequent Secretarial Determinations required by Section 312(a) of Consolidated Appropriations Act, 2012, would provide the public and the domestic uranium industry with information and transparency regarding the Department's planned uranium sales or transfers.

Changing Departmental priorities may require changes to plans or schedules for sale or transfer of uranium that cannot be anticipated at this time. This includes the possibility that uranium that is now directed to national security needs might be declared to be excess and, conversely, that uranium now considered to be excess might be redirected to national security needs. Although the focus of this Plan includes those transactions being considered by the Department through CY 2018, the final disposition of DOE's excess uranium inventories could take at least 20 years when all inventories are considered.

The May 2012 Determination (Appendix A) effectively sets forth uranium transfers being considered during the time span of this Plan. Any additional transfers

will be evaluated separately using the same requirements described in this Plan.[4] The May 2012 Determination specifically considered the following potential transfers:

1. Up to 9,082 metric tons uranium (MTU) of DUF_6 to Energy Northwest (ENW) in CYs 2012 and 2013, which would be immediately followed by enrichment to LEU equivalent to 482 MTU, with ENW utilizing a portion of the LEU for fueling the nuclear power reactor it operates. The remaining LEU would be sold as LEU or, in its component parts, as NU and separative work units (SWUs) to the Tennessee Valley Authority (TVA) as part of a commercial transaction to support future power generation and tritium production from 2013 through 2030, thereby serving national security purposes.

2. Up to 2,400 MTU per year of NU to DOE contractors as compensation for cleanup services at the Gaseous Diffusion Plant (GDP) sites at Paducah, Kentucky, or Portsmouth, Ohio, in quarterly transfers of up to 600 MTU for the period 2012 through 2021.

---

[4] A more recent Secretarial Determination, dated March 15, 2013, covering a one-time transaction resulting in the transfer of 299,000 SWU, the enrichment component of 47.6 MTU of LEU, is described below.

3. Up to 400 MTU NU equivalent per year contained in LEU transferred to NNSA contractors for down-blending HEU to LEU for the period 2012 through 2020.

* * *

United States Government Accountability Office

GAO

Report to Congressional Committees

September 2011

EXCESS URANIUM INVENTORIES

Clarifying DOE's Disposition Options Could Help Avoid Further Legal Violations

[LOGO]

[LOGO]

Why GAO Did This Study

Uranium is a key component in the production of nuclear energy and nuclear weapons. The Department of Energy (DOE) manages the nation's surplus uranium, which is derived in part from former nuclear weapons production. In 2008, DOE published a uranium management plan that set a target for DOE uranium sales and transfers to avert harm to the domestic uranium industry. In 2009, DOE began using natural uranium to pay for cleanup work at a former uranium enrichment facility in Ohio, without having identified such transactions in its 2008 plan.

As directed, GAO reviewed DOE's uranium management program. This report examines (1) DOE's uranium transactions and plans for future transactions, (2) the extent to which these transactions were consistent with DOE's uranium management plan, and (3)

the extent to which these transactions were consistent with federal law. GAO reviewed transaction documents and contracts and interviewed knowledgeable DOE, contractor, and uranium industry officials and uranium market analysts.

What GAO Recommends

GAO recommends that DOE update its uranium management plan and suggests that Congress consider authorizing DOE to, among other things, retain the proceeds of future uranium transactions. DOE agreed to update its uranium management plan but disagreed that its actions did not comply with federal fiscal law. GAO maintains, however, that DOE's comments do not undermine the conclusion that the department violated the miscellaneous receipts statute.

View GA0-11-846 or key components.

For more information, contact Gene Aloise at (202) 512-3841 or aloisee@gao.gov.

September 2011

EXCESS URANIUM INVENTORIES

Clarifying DOE's Disposition Options Could Help Avoid Further Legal Violations

What GAO Found

In a series of seven transactions from December 2009 through June 2011, DOE used 1,873 metric tons of natural uranium to pay for $256 million in cleanup services provided by two contractors at the Portsmouth, Ohio, enrichment facility, and additional transactions are planned. Six out of seven of these transactions involved the United States Enrichment Corporation (USEC), former operator of the Portsmouth facility. DOE released 1,473 metric tons of uranium, and USEC provided $194 million in cleanup services at the Portsmouth facility. Among other activities, USEC's services included removing chemical and hazardous materials from the plant. The seventh transaction involved a second contractor. In June 2011, DOE released 400 metric tons of uranium, and the contractor agreed to provide $62 million in decontamination and decommissioning services. DOE officials said the department expects to continue transferring natural uranium to this contractor for cleanup services through 2013.

DOE's uranium transactions have been consistent with parts of its uranium management plan but not with others. The plan states that DOE would adhere to a target for uranium sales and transfers of no more than 10 percent of annual domestic fuel requirements

for uranium. DOE's releases of uranium into the commercial market did not exceed the annual target specified in the plan, ranging from 5 percent of demand in 2008 to 6 percent in 2010 – well below the 2008 plan's designated target. With regard to other provisions, however, DOE has departed somewhat from the plan. For example, the department has deviated from the schedule of uranium transfers articulated by the plan, allowing more uranium to enter the market sooner than cited.

DOE's uranium transactions with USEC were sales authorized by the USEC Privatization Act, but they did not comply with federal fiscal law. The USEC Privatization Act requires that before a uranium sale, DOE must determine that the materials are surplus to national security needs; that the department is receiving fair market value; and that the sales will not adversely affect the domestic uranium mining, conversion, and enrichment industries. GAO found that DOE met these requirements. Nevertheless, by not depositing the value of the net proceeds from the sales of uranium into the Treasury, DOE violated the miscellaneous receipts statute. This statute requires an official or agent of the government receiving money from any source on the government's behalf to deposit the money in the Treasury. As GAO found when it reviewed a similar series of transactions in 2006, DOE provided the uranium to USEC for sale to a third party and allowed USEC to keep the proceeds of the sales. Even with no money changing hands, GAO concludes that an amount equivalent to the value that went to

USEC should have gone to the Treasury. By not depositing an amount equal to the value of the uranium into the Treasury, DOE has inappropriately circumvented the power of the purse granted to Congress under the Constitution.

[LOGO]

September 26, 2011

The Honorable Dianne Feinstein
Chairman
The Honorable Lamar Alexander
Ranking Member
Subcommittee on Energy and Water Development
Committee on Appropriations
United States Senate

The Honorable Rodney P. Frelinghuysen
Chairman
The Honorable Peter J. Visclosky
Ranking Member
Subcommittee on Energy and Water Development
Committee on Appropriations
House of Representatives

Uranium – a naturally occurring radioactive element – is used in nuclear weapons as well as in fuel for nuclear power plants. In the United States, 20 percent of the nation's electricity comes from nuclear power, and growing energy demand and concerns about carbon dioxide emitted when fossil fuels are burned have sparked interest in increasing the use of nuclear power. A healthy and reliable domestic uranium industry is considered essential to ensuring that nuclear

power remains a viable option for supplying the nation's energy needs.

From the 1940s, the Department of Energy (DOE) and its predecessor agencies have processed uranium as a source of nuclear material for defense and commercial purposes. A key step in this process is the enrichment of natural uranium, which raises its concentration of uranium-235, the form, or isotope, that undergoes fission to release enormous amounts of energy in nuclear reactors and weapons. The enrichment process results in two principal products: (1) enriched uranium hexafluoride, which can be further processed for specific uses, such as nuclear weapons or fuel for power plants, and (2) leftover "tails" of uranium hexafluoride, which are also called depleted uranium because the material is depleted in uranium-235 compared with natural uranium. Since 1993, uranium enrichment activities at DOE-owned uranium enrichment plants have been performed by the United States Enrichment Corporation (USEC), a former government-owned corporation that was privatized in 1998.

DOE maintains inventories of natural, enriched, and depleted uranium in excess of its needs. This inventory comes from a variety of sources, including the dismantling of some of the nation's nuclear weapons or leftover material from before 1993. The department stores most of its uranium at its Portsmouth Gaseous Diffusion Plant, a uranium enrichment facility in Piketon, Ohio, that ceased operations in 2001, and at its Paducah Gaseous Diffusion Plant, a similar facility currently operated by USEC in Paducah, Kentucky.

In March 2008, we reported on DOE's options for its inventory of depleted uranium.[1] We recommended that the department develop a comprehensive uranium management assessment containing detailed information on the types and quantities of depleted, natural, and enriched uranium managed by DOE and a comprehensive assessment of the department's options for this material. In December 2008, with input from the uranium industry, DOE published its "Excess Uranium Inventory Management Plan" detailing the amount of uranium held by the department and what plans it had at that time for selling or transferring uranium to the commercial market. The purpose of DOE's plan was to provide the general public and interested stakeholders more specific information and enhanced transparency with respect to DOE's preliminary plans for its excess uranium transactions.[2] The plan detailed the amount and type of uranium in the department's possession and DOE's disposition strategy at the time. Among other details in the plan, DOE committed to generally restricting its annual uranium sales and

---

[1] GAO, *Nuclear Material: DOE Has Several Potential Options for Dealing with Depleted Uranium Tails, Each of Which Could Benefit the Government*, GAO-08-606R (Washington, D.C.: Mar. 31, 2008).

[2] According to DOE officials, the objectives of DOE's plan were to: (1) enhance the value and usefulness of DOE's uranium; (2) reduce DOE programmatic costs by decreasing uranium inventories; (3) meet key nonproliferation objectives; and (4) dispose of unmarketable material to facilitate the cleanup of DOE's uranium enrichment plants, in addition to minimizing any material adverse impacts on the domestic uranium industry.

transfers to 10 percent of domestic nuclear fuel requirements but also noted that it may exceed 10 percent in any given year for certain special purposes. Shortly thereafter, in July 2009, DOE announced its intent to use some of its natural uranium to compensate USEC – in lieu of cash payment – for accelerated environmental cleanup work the company was conducting at the Portsmouth facility. This work was intended to prepare the facility for decontamination and decommissioning. In August 2010, DOE entered into a new contract with the firm Fluor-B&W Portsmouth to decontaminate and decommission the Portsmouth facility.[3] Subsequently, DOE announced a second round of uranium transactions – this time with the new contractor instead of USEC – to similarly compensate it for some of its services at Portsmouth.

The conference report accompanying the fiscal year 2010 Energy and Water Development and Related Agencies Appropriations Act directed us to review DOE's overall uranium management plan, including the department's oversight and implementation strategy, and to assess certain uranium transactions for

---

[3] Fluor-B&W Portsmouth LLC is a partnership between Fluor Federal Services, Inc., a subsidiary of Fluor Corporation, an engineering and construction management firm, and Babcock & Wilcox Technical Services Group, a subsidiary of the Babcock & Wilcox Company, a firm that owns and operates large nuclear facilities. Both companies have experience in the handling and disposal of nuclear waste and materials and have worked with DOE to clean up other nuclear weapons facilities across the United States.

consistency with federal law.[4] Accordingly, this report examines (1) DOE's transactions using its excess uranium and its plans for such transactions in the future, (2) the extent to which these transactions have been consistent with DOE's excess uranium management plan, and (3) the extent to which these transactions are consistent with federal law.

To examine DOE's uranium transactions for cleanup services, we reviewed, among other things, DOE documents detailing the transactions the department has engaged in involving its uranium, assessments of the value of uranium in each transaction, and analyses of the impact of DOE's activities on the uranium market. To examine the extent to which DOE's activities have been consistent with its excess uranium management plan, we analyzed the plan and compared the uranium activities the plan projected against DOE's actual uranium transactions. To determine the extent to which DOE's uranium transactions are consistent with federal law, we reviewed statutes governing DOE's uranium activities, including the USEC Privatization Act, as well as relevant fiscal laws, such as the miscellaneous receipts statute.[5] For all of our objectives, we interviewed officials at DOE's headquarters in Washington, D.C., and at the Portsmouth/Paducah Project Office in

---

[4] H.R. Rep. No. 111-278, at 121-22 (2009) (accompanying Energy and Water Development and Related Agencies Appropriations Act, 2010, Pub. L. No. 111-85, 123 Stat. 2845).

[5] USEC Privatization Act, 42 U.S.C. §§ 2297h-2297h-13 (2006); miscellaneous receipts statute, 31 U.S.C. § 3302(b) (2006).

Lexington, Kentucky. We interviewed uranium industry representatives at selected mining, milling, conversion, enrichment, and fabrication firms about DOE's uranium management plan, the commercial uranium market, and the impact of DOE's activities on the uranium industry. We selected firms in the uranium industry to obtain information from each stage of the nuclear fuel cycle. We also interviewed nuclear industry trade representatives, market analysts, uranium brokers, and utilities. Appendix I describes our scope and methodology in more detail.

We conducted this performance audit from November 2010 through September 2011, in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

* * *

79TH CONGRESS } SENATE { REPORT
2d Session } { NO. 1211

Calendar No. 1251

ATOMIC ENERGY ACT OF 1946

APRIL 19 (legislative day, MARCH 5), 1946.
– Ordered to be printed

MR. MCMAHON, from the Special Committee on Atomic Energy, submitted the following

REPORT

[To accompany S. 1717]

The Special Committee on Atomic Energy, to whom were referred various bills for the control of atomic energy, report back to the Senate S. 1717 with amendment and recommend that the bill do pass. The report submitted herewith outlines in part I the history of the work of the special committee to date, with statements on all other bills and resolutions referred to it and not reported out at this time. Part II consists of an analysis and discussion of each section of S. 1717, giving the reasons behind the various provisions. The appendix to this report contains certain basic information on atomic energy essential to an understanding of the scientific and technical development which forms the background of this legislation.

* * *

2. *Source materials.* – A source material is any material determined by the Commission to be peculiarly essential to the production of fissionable material. The relation of source material to nuclear energy may be thus portrayed:

Source material plus processing→ Fissionable material.
Fissionable material plus processing→ Atomic (i. e., nuclear) energy.

Source materials include uranium and thorium and ores containing uranium and thorium in such proportions as may be set by the Commission.

The principle of Government monopoly which the committee has adopted as essential in reference to the production and ownership of fissionable materials is not extended to the ownership, mining or refining of source materials. Nevertheless, the committee recognizes the necessity of giving to the Commission the power to control supplies and transfers of source material by means of licensing procedures.

While source materials in their natural state are not capable of dangerous misuse, they are, as their name indicates, the source of all fissionable material and must accordingly be conserved as the Nation's most valuable mineral resource. The Commission must be assured an adequate and continuing supply of source materials for the operation of its production facilities for military or developmental purposes. The Commission is therefore empowered to take, in return for just compensation, supplies of source materials

wherever found, or interests in real property containing such materials.

* * *

ATOMIC ENERGY

HEARINGS

BEFORE THE

COMMITTEE ON MILITARY AFFAIRS

HOUSE OF REPRESENTATIVES

SEVENTY-NINTH CONGRESS

FIRST SESSION

ON

H. R. 4280

AN ACT FOR THE DEVELOPMENT
AND CONTROL OF ATOMIC ENERGY

OCTOBER 9 AND 18, 1945

Printed for the use of the
Committee on Military Affairs

[LOGO]

UNITED STATES
GOVERNMENT PRINTING OFFICE
WASHINGTON : 1945

* * *

[125] Mr. JOHNSON. I do not know whether this has been brought out or not, but, as I understand it, uranium is found in ledges in the mountains just like other kinds of ore. Is it found in the same strata or near

the same strata as gold and silver and iron, for instance?

Dr. COMPTON. I am not well informed, Mr. Johnson, with regard to the occurrence of uranium, but it is widespread in its occurrence.

Mr. JOHNSON. Is uranium itself, without applying to it some industrial process, dangerous?

Dr. COMPTON. No; it is not.

Mr. JOHNSON. In other words, before there is any danger you have to put it through a process, capture it and confine it and then provide a way to explode it?

Dr. COMPTON. Yes; that is correct.

Mr. JOHNSON. The impression I got from the hearings was that any activity that has to do with uranium is dangerous. Is that a fallacy?

Dr. COMPTON. It is a fallacy. The only reason that one might consider it dangerous is because information might come out of it that might lead to something else, or something of that kind. But it is perfectly possible with safety to do experiments on a small scale with uranium.

Mr. JOHNSON. There are a great many commercial uses to which this element is put, which could be done in laboratories without any danger to anyone?

Dr. COMPTON. Yes.

Mr. JOHNSON. The only danger that has been exposed so far is the fact that you can put it together in a form where it is highly explosive. Is that correct?

Dr. COMPTON. Even that is exaggerated. Uranium, until it has gone through the process of separation to uranium 235, can at most produce atomic power and not atomic explosions.

* * *

SEN. LISA MURKOWSKI HOLDS A HEARING ON THE NOMINATION OF RICK PERRY TO BE SECRETARY OF ENERGY

January 19, 2017

WASHINGTON, D.C.

Committee on Energy and Natural Resources. Senate

* * *

MURKOWSKI: Thank you, Senator King.

Senator Portman?

PORTMAN: Thank you.

And, Governor Perry, thank you for your willingness to step up and . . .

PERRY: Yes, sir.

PORTMAN: . . . serve again in a different way and your family for sacrifices that involves. I enjoyed our meeting. Apparently it wasn't as scintillating at the conference table here than – as your one on the couch with my colleague from Minnesota.

PERRY: Yes, sir.

PORTMAN: But it was interesting.

PERRY: Yes, it was.

PORTMAN: And we talked about a number of topics. One was the importance to my state and to our nation of having a uranium enrichment capability. In Piketon, Ohio we have a plant that produced enriched uranium until about 2000. At that point, it was shut down.

It was the gaseous diffusion method. It's now being cleaned up.

When President Obama ran in 2008, he promised to accelerate that cleanup. In fact, just the opposite has happened. Pretty much every year we've had to fight just to keep the cleanup in place. It's gone from a 2024 timeframe to a 2044 end date, costing taxpayers, by the way, billions more by stretching it out and not being more efficient about it.

And I'm very disappointed in the Department of Energy for their inability to follow through on their commitments to the plant. And, frankly, it's really difficult for people who work there. They just never know if their next paycheck is going to be there and this usually happens around Christmas time as it did in this past Christmas.

So one question for you. Would you be committed to looking at this cleanup effort in a more logical way, helping to ensure we have the funds necessary to be able to expedite that cleanup, which, again, provides security to these families but, importantly, lowers the cost for the taxpayer by getting this cleanup done?

PERRY: Senator, I will commit to you that I will become as educated on this issue as I can in the most expeditious way that I can manage it and – and employ management skills and capabilities. I – I – again, without knowing the deep details of this. But my instinct tells me that this is an issue of execution of good management of – of the . . .

PORTMAN: I thank – I thank you for that and I'll put you on the spot here further. Secretary Moniz, when he went through his confirmation hearing, committed to come to the site. We never managed to work that out. I'd love for you to see this site. It's a couple thousand acres.

As I've told you, it has incredible infrastructure, electricity and water. It would be a great site for a future plant, including a power plant, including a nuclear power plant. The community is very supportive.

Would you commit to come out and to see this yourself, to see the huge investment the Department of Energy has made into this facility?

PERRY: Senator, I will commit to that and I will suggest that you know how to get a hold of me if I don't show up on a timely basis for you.

PORTMAN: Great. Well, thank you.

And then, second, we started a new centrifuge technology project there a few years ago. We were excited about that. In late 2015, without any notice, the Department of Energy shut that down.

Unfortunately, they had spent, you know, hundreds of millions of dollars of taxpayer money up to that point. Those centrifuges are still there. They're not spinning any more. They're apparently going to be sent to the desert, which is an enormous waste of taxpayer money.

We have no ability to enrich uranium in this country. We have to rely on foreigners at – at a time when we

have an increased volatility globally and at a time when, ironically, we're telling Iran they can go ahead and enrich uranium for their domestic purposes. We, as Americans, don't have the ability to do that.

My question for you there is would you also be willing to look into this issue? And, you know, I'm not going to ask you for a specific commitment today on restarting this because I know you need to research it, but I hope that you will give this your personal attention and – and objective consideration, because it seems to me we need to have enrichment capabilities in this country.

Do you have a response to that?

PERRY: Senator, I will give it the appropriate and thorough study. In addition, I will say that the enrichment of uranium in the United States is a national security issue and one that I take very seriously.

I look forward to working with you to not only understand this issue better but if it is concluded, as I suspect it will, that this is indeed a national security issue that needs to be addressed either by the United States Congress and/or the administration, you will have a willing partner in making sure that the DOE does it in the most efficient, most effective, and most economically feasible way that it can.

PORTMAN: Well, thank you, Governor. It is a national security issue. There's no question about it. Not just being reliant on foreign countries including Russia for uranium, but also because we need lowly-enriched uranium for tritium in the nuclear stockpile and, of

course, we need to have enriched uranium for our nuclear Navy.

And I know we have stockpiles now but we don't have the ability to be able to quickly be able to enrich. It probably takes a decade to get this back up and going if we shut it off altogether, and again, enormous cost to the taxpayers.

Finally, just one last question. We talked a lot about energy efficiency in our meeting. I told you about the fact this committee overwhelmingly had voted out an energy efficiency bill equivalent of taking 22 million cars off the road by 2030. We also passed it in the entire Senate 82 to 12 – 82 to 15, as I recall.

Both the ranking member and the chair have been at the forefront on this issue. I would like your commitment today that you'll comport with us on energy efficiency and help us to get that legislation across the line?

PERRY: Yes, sir. Use me as you see fit.

PORTMAN: Thank you, Madam Chair.

* * *

SEN. BARBARA BOXER HOLDS A HEARING ON MACFARLANE/SVINICKI NOMINATIONS

June 13, 2012

WASHINGTON, D.C.

Committee on Environment and Public Works. Senate

* * *

BOXER: OK. I've just been notified we're going to have two votes at noon. So, in order to give everybody a chance, we're just going to have to go down to three minutes apiece. I do deeply apologize. Senator Barrasso.

BARRASSO: Thank you, Madam Chairman. Just a couple of quick questions, Dr. Macfarlane. My home state of Wyoming and I know you were taking notes as [sic] an abundance of domestic uranium. Permitting of these sites has met with a lot of bureaucratic delay and red tape.

These sites – good paying jobs for American jobs for folks in my state, other states where uranium is found. Do you believe that the domestic uranium production is preferable to being dependent on importing foreign uranium from countries like Russia?

MACFARLANE: First of all, I should say that I think that Wyoming is one of the most beautiful states in the union. That aside, the job again of the Nuclear Regulatory agency is just to assure safety and security. Not to opine on policy positions but to – given that and my past views on things.

Certainly, it's important for the United States to have a diverse supply of energy as possible and to have as much domestic supply as possible as well.

BARRASSO: Thank you. What assurances can you provide the commission that you'll not unduly delay commission decisions or ensure that all the perspectives and opinions of your colleagues are dealt with in a respectful and timely manner?

MACFARLANE: I assure you wholeheartedly.

BARRASSO: Thank you. Commissioner Svinicki, you've had a number of questions asked to you today. I'm just wondering if there are any things, any comments you'd like to make to the Committee to kind of tie together or answer some of the charges that may have been made by others.

SVINICKI: I would reflect that – again, I was privileged to be a senate staff first. And for a long time, I have a tremendous respect for the Senates unique role under the constitution to review President Obama's nomination of May.

And I know that I've not achieved universal agreement in my actions and positions I've taken on the commission. I'm very respectful that there are different views. I think as Dr. Macfarlane has indicated, it's not an expectation that everyone agree with everyone.

And so, that standard was probably not within my reach but I have worked to assess issues based on the facts in front of me. And I've attempted to fulfill my duty in that way. Thank you.

BARRASSO: Thank you. Thank you and congratulations to both of you. Thank you, Madam Chairman.

* * *

S. HRG. 114-158

THE ADMINISTRATION'S QUADRENNIAL ENERGY REVIEW (QER)

HEARING

BEFORE THE

COMMITTEE ON ENERGY AND NATURAL RESOURCES UNITED STATES SENATE

ONE HUNDRED FOURTEENTH CONGRESS

FIRST SESSION

THE ADMINISTRATION'S QUADRENNIAL ENERGY REVIEW (QER)

APRIL 28, 2015

Printed for the use of the
Committee on Energy and Natural Resources

U.S. GOVERNMENT PUBLISHING OFFICE
95-272 WASHINGTON : 2016

* * *

[59] The CHAIRMAN. Thank you, Senator Franken. I look forward to working with you on some of these Office of Indian Energy issues.

Senator Cassidy.

Senator CASSIDY. Thank you.

Mr. Secretary, I am about to ask a bunch of questions I do not know the answer to.

Secretary MONIZ. We don't either. [Laughter.]

Senator CASSIDY. I hope you do, but if you say you do not, I accept that.

What has been in the news lately is the Uranium One sale to Russia. It may not be Uranium One, but the Canadian company that gave contributions to the Clinton Foundation, they had uranium mining rights across the world including the Western United States and subsequently have sold to a Russian concern.

There is a certain scandal involved. I am not here to discuss the scandal. What I am interested in is, and I think it is ARMZ that currently has these holdings, what percent of actively mined U.S. uranium resources are controlled by the Russian concern? Do you know that?

Secretary MONIZ. I do not. I wasn't aware of any, to be honest, but I don't know the answer. But I can look into that. I don't know the issue, I'm sorry. Yeah.

Senator CASSIDY. Okay, then if you do not know the issue it may not work for any of these because the second question would be I understand, again, that the Russians now claim to control a significant portion of world uranium deposits. In which case, can they choose to increase price by limiting supply? Again, I ask this for no other reason that I think there is national security issues at stake.

Secretary MONIZ. Again, I'll have to look at this. And I'm happy to get back to you.

However, it's a little bit surprising in a sense that I believe the largest reserves are in Kazakhstan and the second largest, I believe, are Australia.

[60] Senator CASSIDY. They own those too.

Uranium One had holdings. They combined with the South African firm, and they purchased Australia and the Kazak reserves or maybe the Russians already had the Kazak, but I think actually the Uranium One then purchased.

This is in a New York Times article.

Secretary MONIZ. I didn't see it, so, I'm sorry.

Senator CASSIDY. But they now own reserves in the Western United States which, I gather, are being exported to Canada, the mined material even though it is not allowed for Uranium One, but the trucking company is allowed to export. So it seemed, kind of, like a loophole.

Well, I will submit these questions for the record since you do not know the answers.

Secretary MONIZ. Okay.

Senator CASSIDY. Again, it just seems of incredible importance to our nati nal security and to our energy security, so that is why I ask.

Secretary MONIZ. Okay, well I'll look into it, sir.

Senator CASSIDY. Thank you.

* * *

October 5, 2010

The Honorable Timothy F. Geithner
Secretary
U.S. Department of the Treasury
Chairman, Committee on Foreign Investment in the United States
c/o Mr. Aimen Mir
Director, Office of Investment Security and Staff Chairperson, CFIUS
1500 Pennsylvania Avenue, N.W., Room 5221
Washington, D.C. 20220

Dear Mr. Secretary,

We are writing to express our great concerns regarding the pending sale of a uranium processing facility operated by Uranium One USA to Atomredmetzoloto, the mining arm of Rosatom, the Russian government agency that oversees Russia's nuclear industry. We believe that this transaction could threaten to impair the national security of the United States and respectfully urge the Committee to recommend the President block this transaction or postpone any action until the CFIUS has carefully evaluated the concerns outlined below and the separate Congressional review on the U.S.-Russia nuclear cooperation agreement has been completed.

On August 31, 2010, the parties announced that the ARMZ Uranium Holding Co. had purchased a controlling 51 percent interest share in Uranium One, Inc. Uranium One USA, the American subsidiary of Uranium One, Inc., operates a uranium processing facility

Secretary MONIZ. Okay, well I'll look into it, sir.

Senator CASSIDY. Thank you.

* * *

October 5, 2010

The Honorable Timothy F. Geithner
Secretary
U.S. Department of the Treasury
Chairman, Committee on Foreign Investment in the United States
c/o Mr. Aimen Mir
Director, Office of Investment Security and Staff Chairperson, CFIUS
1500 Pennsylvania Avenue, N.W., Room 5221
Washington, D.C. 20220

Dear Mr. Secretary,

We are writing to express our great concerns regarding the pending sale of a uranium processing facility operated by Uranium One USA to Atomredmetzoloto, the mining arm of Rosatom, the Russian government agency that oversees Russia's nuclear industry. We believe that this transaction could threaten to impair the national security of the United States and respectfully urge the Committee to recommend the President block this transaction or postpone any action until the CFIUS has carefully evaluated the concerns outlined below and the separate Congressional review on the U.S.-Russia nuclear cooperation agreement has been completed.

On August 31, 2010, the parties announced that the ARMZ Uranium Holding Co. had purchased a controlling 51 percent interest share in Uranium One, Inc. Uranium One USA, the American subsidiary of Uranium One, Inc., operates a uranium processing facility

in Wyoming. The sale could reportedly give Russia control of about 20 percent of U.S. uranium extraction capacity.

ARMZ is the successor to the world's largest uranium producer built by the Soviet Union. ARMZ is the primary supplier of uranium feedstock to the Russian nuclear industry. ARMZ is wholly owned by Rosatom, which accounts for one-fifth of the new reactors under construction worldwide and 17 percent of global nuclear fuel fabrication.

Rosatom's specific activities – and the context within which it operates in Russia – should raise very serious concerns for United States national security interests.

Rosatom is a state-owned entity, overseen by a government that has shown little if any inclination to effectively address the widespread and continuing corruption within Russia, particularly its energy sector.

Moreover, Rosatom has been engaged in a series of ongoing and potential civilian nuclear activities that should raise red flags in the consideration of the purchase of Uranium One by the Rosatom subsidiary ARMZ:

Russia's Rosatom trained Iranian scientists and designed and built Iran's Bushehr nuclear power plant, which became operational in August, 2010. Russia now supplies this nuclear plant at Bushehr with enriched-uranium fuel rods and then is to remove the spent fuel

rods that could otherwise be used to make weapons-grade plutonium.

In 2007, Rosatom signed an agreement to help build nuclear facilities in Burma and train Burmese scientists, despite U.S. concerns about the Burmese regime. A State Department spokesman at the time said the following with regard to that agreement: "We would be concerned about the possibility for accidents, for environmental damage, or for proliferation simply by the possibility of fuel being diverted, stolen or otherwise removed."

Despite criticism by environmental and nonproliferation experts, Rosatom has launched a program to build and sell floating nuclear power plants to countries around the world, with little demonstrated intent or capability to protect those floating reactors from attack or theft of nuclear materials or from accidents that could have devastating and widespread impact. With regard to proliferation, some observers are concerned over the possibility that, by operating such a floating reactor far from its soil, a host nation might be able to bypass the proliferation guidelines of the Nuclear Suppliers Group and the International Atomic Energy Agency.

It is our understanding that the US Department of State itself has this year warned that the expansion of Russia in the area of nuclear energy could involve the appearance of new danger zones in the world.

Further, in a 2007 report on nuclear nonproliferation, the General Accounting Office noted that despite the

US Department of Energy's provision of access by Russian officials to sensitive nuclear sites in the United States, Rosatom "denied [GAO's] request for access to facilities . . . [and] denied DOE proposals for upgrading the sites including proposals with less intrusive access requirements, and informed DOE that it is not interested in pursuing [Materials Protection, Control and Accounting] MPC&A cooperation at these sites."

Russian entities are of particular concern with regard to foreign control of U.S. nuclear-related assets.

Since 1998, at least 19 different Russian entities have been placed under proliferation-related sanctions on over 20 different occasions. Indeed, a 2009 report by the Director of National Intelligence to Congress stated that Russian entities continue to sell technologies and components in the Middle East and South Asia that are dual use and could support WMD and missile programs. Additionally, the Department of Commerce lists eight Russian entities subject to license requirements for proliferation-related end-use or end-user controls, five of which are under "presumption of denial."

In addition to the Bushehr nuclear plant, Russia has also indicated its interest in building further nuclear reactors in Iran. This cooperation has caused great distress that it could advance Iran's nuclear ambitions, be it through the extraction of weapons-grade plutonium from the reactor or the use of Bushehr (and any future additional reactors) as a cover for the prohibited

transfer of other sensitive technology. It has also undermined longstanding efforts to compel Iran to abandon its pursuit of nuclear weapons.

Although Uranium One USA officials are reportedly skeptical that the transaction would result in the transfer of any mined uranium to Iran, we remain concerned that Iran could receive uranium supplies through direct or secondary proliferation.

However, the potential threat to U.S. security interests posed by the proposed transaction involving ARMZ (Rosatom) is not limited to Iran.

In May of this year, Russian President Dmitri Medvedev and Syrian leader Bashar al-Assad announced they were discussing future Russia-Syria nuclear cooperation.

Months later, in a report issued in September, the International Atomic Energy Agency (IAEA) stated that Syria continues to block its inspection of the nuclear facility destroyed by an Israeli airstrike in 2007 that had been built by North Korea for use in Syria's nuclear weapons program. Russia's eagerness to begin nuclear cooperation with Syria in these circumstances can only be seen in Damascus as strong backing for its nuclear ambitions, which is similar to the support Russia has given to Iran's nuclear program. The facilities, materials, technology, and expertise that could be provided to Syria, even for a "peaceful" program, would likely be used for a renewed weapons program, regardless of any assurances the Russians might provide. Russia's support for Syria's nuclear ambitions raises

particular proliferation concerns given Syria's status as a country of proliferation concern and a state sponsor of terrorism.

These are just a few of the national security concerns that have prompted strong opposition to the proposed U.S.-Russia nuclear cooperation agreement (123 Agreement) now under consideration by Congress. The agreement cannot be defended on its merits. Both, the Bush and Obama administrations, have been unable to certify that Russian officials, individuals, and organizations are not still assisting Iran's nuclear program, as has occurred on many occasions over the past two decades. That agreement has yet to be approved and may need to be taken up again in the next Congress, where it is likely to be subjected to much greater scrutiny and potential corrective action.

We believe the take-over of essential U.S. nuclear resources by a government-owned Russian agency, as would occur under the proposed transaction, would not advance the national security and interests of the United States. We urge the Committee to recommend the President block this transaction. In the alternative, we ask the Committee to consider postponing any action on the transaction involving Uranium One, Inc. and ARMZ until the Congressional review on the U.S.-Russia nuclear cooperation agreement has been completed.

We appreciate the opportunity to share our views and concerns with you.

Sincerely,

ILEANA ROS-LEHTINEN

SPENCER BACHUS

PETER KING

HOWARD P. McKEON

Forbes

America's Navy The Unsung Heroes Of Nuclear Energy

The United States has over 200 nuclear reactors producing power. You might be aware of the hundred or so commercial nuclear power reactors that produce just under 20% of our electricity. But there are another hundred nuclear reactors that power 86 submarines and aircraft carriers, producing electricity, heat, fresh water and propulsion.

America's Nuclear Navy is one of the oldest and largest nuclear organizations in the world and has *the* best safety record of any industry.

And no one ever discusses it.

But Naval Commander Djamal Pullom did just that, during the National Nuclear Science Week event at the Pacific Science Center in Seattle, Washington. The Navy is rather quiet about its phenomenal success, and CDR Pullom's presentation unfolded like a cozy mystery.

The Nuclear Navy has logged over 5,400 *reactor years* of accident-free operations and travelled over 130 million miles on nuclear energy, enough to circle the earth 3,200 times. The nuclear reactors can run for many, many years without refueling. They operate all over the world, sometimes in hostile environments, with no

maintenance support except their own crew. These reactors can ramp up from zero to full power in minutes, as fast as any natural gas-fired plant.

Thousands upon thousands of people have continuously lived, worked, eaten and slept within a stone's throw of a nuclear reactor for 60 years with no adverse effects at all. Annual radiation doses to Navy personnel have averaged only 0.005 rem/year (5 mrem/year; 0.05 mSv/year), a thousand times less than the Federal 5 rem/year allowed for radworkers.

From the time the *Father of the Nuclear Navy*, Admiral Rickover, developed and built the first ship of the nuclear navy, the *USS Nautilus* in 1954, to the present, no civilian or military personnel on these ships, which number over 22,000 thousand people at any one time today, has ever exceeded any Federal rad limit. And none of those more than a hundred thousand people has ever been harmed by the radiation from reactors or facilities with which they were so intimately in contact.

A recent report from the Naval Nuclear Propulsion Program Office provides very detailed information of personnel exposures from living and working in nuclear submarines and on nuclear ships, as well as working in the on-shore facilities that produced fuel and materials for the Nuclear Navy such as nuclear propulsion plants and nuclear component engineering plants.

While ordinary accidents occasionally occur as with any military operation, none have been related to nuclear or radiation, and no radiation health effects or reportable radiological accidents have ever happened in Navy history.

Our Nuclear Navy has to navigate some pretty unusual waters, but I am betting on them to keep doing so perfectly.

Dr. James Conca is a geochemist, an energy expert, an authority on dirty bombs, a planetary geologist and professional speaker. Follow him on Twitter@jimconca *and see his book at* Amazon.com